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THIS is the first bulletin issued for the current year containing the usual assortment of interesting articles from our own contributors. Bulletin No. 21, issued in March, devoted solely to the history of the Philadelphia, Wilmington & Baltimore R. R., was a special bulletin, in line with Bulletin No. 19 on the Michigan Central R. R. These special bulletins have been of no little interest to our members and to the public and have been very well received.

Turning to the contents of this issue, the possibilities of research for locomotive data, even at this late day, are represented in the list of Boston & Albany R. R. locomotives compiled by Mr. George Becker. It represents a tireless search for this material and the information given, we believe to be as accurate as can be found at this late day and also the first complete list of these locomotives ever printed. The account of the Ice Railway at Montreal and Kinmond Brothers' Locomotive Works also make interesting additions to our contributions. The brief history of the New York & New England R. R., by Commissioner George M. Woodruff, was the genesis of an idea of writing the history of the various railroads in the State of Connecticut. A pity that the idea was not carried farther than this single history!

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The Genesis of the Western R. R.

By H. A. Freeman

THE Revolutionary War left the colonies and the towns in the colonies very heavily in debt. A large part of the debt was owed abroad. To meet this obligation the Federal government imposed import duties and the various states and towns in the young republic levied direct taxes. Money being very scarce and not on a metal basis, it compelled our forefathers to rely largely on exports to raise the wherewithal to pay taxes at home and interest abroad. We were then an agricultural nation and our exports were largely foodstuffs. The soil in the seaboard states was diminishing in yield, and the virgin lands of the Allegheny western slopes and beyond were early to begin pouring their rivers of grain to the east. It was the necessity of setting these products down at seaboard at the lowest possible cost that stimulated the principal ports along the Atlantic coast to create economical arteries of transportation to the west.

The first successful achievement in this direction was the Erie Canal which wrested from Philadelphia its premier position and handed it to New York. Other similar projects such as the Baltimore & Ohio R. R. from Baltimore and the Phil. & Columbia and Allegheny Portage RRs and connecting canals from Philadelphia, soon followed.

Boston, though among the last to provide a western channel of trade to its doors, was among the first if not the very first to recognize the economic necessity of a trade route to its port and in 1792 a company was incorporated to build a canal between Boston Harbor and the Connecticut River. Due to the enormous public debt and prevailing poverty neither public nor private funds were obtainable and the idea abandoned. Thirty-three years later, or in February 1825, the state legislature appointed a commission to determine the feasibility of constructing a Canal from Boston to the Connecticut and to scheme out a means by which this artery of trade could be extended west across the Berkshires to the Hudson River. A careful study and survey showed the canal to be feasible, but the surmounting of the western hills was not so easy, and the matter again dropped. The use of a highway laid with rails was suggested at this time in an unofficial way, and in June 1827 a commission was appointed to survey for a railroad between Boston and the Hudson. Between then and the 29th of January 1828 the commission investigated the feasibility of two routes across the state, one crossing the Connecticut at Springfield, the other one crossing at Northampton. Some surveys were made only on the Springfield route as superficial consideration indicated this to be the cheaper to build, besides tapping the largest centers of population.

On this survey the most careful work was done between West Springfield and the state line. The commission found that a line could be built with a maximum grade of 80 ft. to the mile for a reasonable cost. From

data available to the commission it was decided to use as a basis of calculations, wagon loads of eight tons. This maximum gradient would require two horses per eight ton load, the grades of this severity being located together in a section about five miles long. Eight miles more of grade would be hard pulling for one horse per eight tons, but the remaining distance could be easily traversed with a single horse per load.

At this time too, the possibilities of way freight as a source of revenue were investigated, a few of the figures being quoted as follows, the rates being the current teaming rates from Boston:—Becket 270 tons per annum at an average cost of $10 per ton, Chester 290 tons at $20, Northampton 9,200 tons and Springfield 12,000 tons at $18 per ton. It was estimated that the total way freight business for the entire route would be about 85,000 tons per annum.

Also as a possible source of additional revenue the transport of passengers was looked into. At this time the state was covered by a score or more turnpike companies which ran stages on highways constructed in most instances and mantained by them, and for the use of which the general public in vehicles of their own were charged toll, which was paid also by foot passengers and drovers. It was estimated that 30,000 people annually travelled by stage, which it was thought that would be even exceeded when the railroad was put through.

This report was laid over till January 1829 when additional data was obtained regarding the probable revenue of the road, and the costs of construction and service. It may be said in passing that practically all of the major trade routes later developing into trunk lines, were established originally only after a very painstaking and businesslike analysis of probable costs and revenue. And the afterward Boston & Albany R. R. was no exception to this. The January 1829 report estimated the total cost of the road at $3,254,876.46, and the cost of freight transportation from Albany to Boston would be $1.97 per ton. Through passengers could be transported from terminal to terminal in 22 hours at the cost of about $3.00 each, based on full load of 20 passengers per car. Further investigation regarding existing passenger traffic showed that eighteen coaches made round trips between Boston and Albany weekly, carrying on the average 45 through and 30 way passengers.

To avoid the large outlay that English rails involved, a construction was recommended consisting of a stone wall extending from the surface of the ground to below frost line, on which was laid a stone slab a foot square in cross section and of convenient length with a bar of iron on top of this on which the carwheels ran. At this time the question of motive power was investigated and it was felt that due to the uncertainty of the commercial success of steam locomotives, and the high price of English coal and domestic coal, the latter being increased by expensive transportation that horses should be used. At this time it may be said, that the Stockton & Darlington was the only common carrier in the world using steam motive power, and the cost of power upkeep on this road was excessive.

The board or commission investigated the two routes before mentioned together with another having Troy for the western terminus.

The southern route was again given the preference, involving a change in level of 1500 ft. less than the better of the other two routes, beside traversing a more populous district.

This report, resulted in the early incorporation of the Boston & Worcester R. R., and in 1833 on the 15th of March in the chartering of the WESTERN RAILROAD CORPORATION, for the purpose of constructing a road from the terminus of the Boston & Worcester R. R. to the New York state line, with a capital of $2,000,000. The first officers of the road were President, Thos. B. Wales, Treasurer, Josiah Quincy, Jr.; Clerk (or secretary), E. G. Loring, the organization and election of officers not taking place until 1836. Hardly had organization been completed when the officers appeared before the legislature to ask permission to incorporate a bank in Boston with a capital of $5,000,000 which should contribute to the road for a period of 20 years the state bank tax. Instead of chartering this bank the legislature permitted the road to increase its R. R. capital to $3,000,000 of which the state subscribed $1,000,000.

Final surveys were begun in April 1836, and January 1837 contracts were let for 20 miles of road at the east end and commencing at Worcester. In July work was begun on the line between East Brookfield and Springfield, and in 1838 grading had been done on 27 miles, all done within estimate. Prior to this time, due to the success of steam power on the Liverpool & Manchester R. R. and various other lines it had been decided to adopt the locomotive as motive power.

Two installments of money due for stock subscribed were paid to the treasurer before work on the line was commenced, and the greater part of the third installment collected when the famous panic of 1837 hit the country. The fourth installment, due in April 1837 was postponed till September and then only 75% of the sum due was collected. The directors decided that unless they could get some form of state aid that they would suspend work. In February 1838 in answer to the request of the officers of the road, the legislature extended the credit of the state to the assistance of the road, by authorizing the issue of $2,100,000, scrip afterwards increased to $3,300,000 which sufficed to complete the road, up to a partial operating point.

On October 1, 1839 the road was opened to travel between Worcester and Springfield and on the 23d regular freight service commenced. Work of construction continued uninterrupted on the western end till money again ran out in 1841 when the legislature made them a grant of $700,000 secured by mortgage, making the whole mortgage on the road to the state $4,000,000.

In the meantime the New York State end of the road, the Albany and West Stockbridge R. R. was in process of construction. It was not completed however when the Western R. R. was opened for business. Opening of the road was not delayed thereby for Western R. R. trains were operated till its completion, over the track of the Hudson & Berkshire R. R. which had been completed to Hudson, N. Y. in 1838.

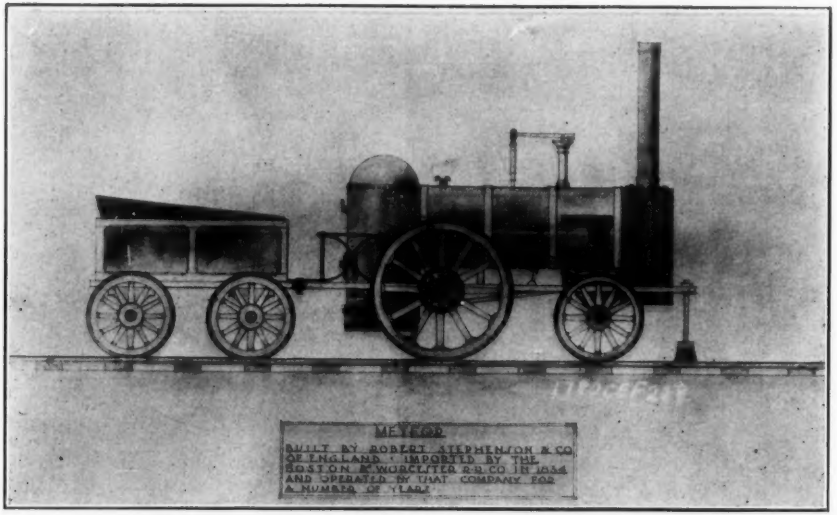
On December 21, 1841 the Western R. R. commenced operation in its entirety. Its total cost was $5,814,817.52, or with the Albany & West

Stockbridge $7,566,791.57. In its opening year 1842 it carried 190,436 passengers and 39,820 tons of freight.

The road as projected and built was well conceived and well constructed. With an eye to future business cuts and fills were made wide enough for double track, as well as were the smaller bridges and culverts. The Connecticut River was crossed by a wooden Howe truss bridge of seven spans, the total length of which was 1,264 feet.

Details of the motive power are outside the scope of this article but it may be said that the earliest engines were of rigid frame planet type, several being built in 1835 by the Lowell Locks & Canals. Cars, freight and passenger, were small four-wheel affairs.

For the information used in this article, I am indebted to the archives of the Department of State of the Commonwealth of Massachusetts, Public Acts of Massachusetts, various files of Boston and Springfield newspapers, and various local histories, conspicuous among the latter Holland's History of Western Massachusetts.


METEOR
BUILT BY ROBERT STEPHENSON & CO
OF ENGLAND · IMPORTED BY THE
BOSTON & WORCESTER R.R. CO IN 1834
AND OPERATED BY THAT COMPANY FOR
A NUMBER OF YEARS

B. & W. "METEOR"—FROM A DRAWING FOUND IN AN OLD B. & W. RECORD BOOK.

Boston and Albany Locomotives 1832-1930

By Geo. P. Becker and Chas. E. Fisher

The following list of locomotives was compiled after careful study of all authentic records which are now available, such as lists published from time to time in the Director's reports, Builder's records, and classification books issued by the Boston and Albany Railroad. To state that the list is absolutely correct in every detail would be folly, as it would be impossible, at this time, to either prove or disprove such a statement. There may be an early locomotive omitted or perhaps a double listing of one or more if the name was changed and was listed as a separate locomotive under each name. These cases may be regarded as few and the list about 98% correct which is as nearly correct as it is possible to make it at this time from available records.

A name appearing on an early record and not on later ones would indicate that the locomotive was either renamed, or after it was retired from service the name was not assigned to its successor. There is evidence that the original "Lion" on the Boston and Worcester was renamed "Brookline" and the "Despatch" on the same road carried the name of the "Prince of Wales" while that distinguished person was in this country in 1860. With these two instances on record it is not unreasonable to assume that it may have been done in a few other cases.

Therefore, in making up this list, in order that no name found on any list or record would be omitted, all names which could not be traced through to the later lists, are included as near as possible to other locomotives built about the same date but with no apparent connection with any of these or other later locomotives. Where there are two or more locomotives of the same name it does not always indicate that the first one remained in service until the second one was built.

The locomotive "Yankee" built at Mill Dam Foundry, Boston, and delivered to the Boston and Worcester Railroad July 3rd, 1834 was the first locomotive built in New England.

All locomotives built prior to the consolidation in 1867, with numbers up to and including number 109 were built for or by the Western Railroad and those built prior to that date with numbers 110 and above were built for or by the Boston and Worcester Railroad.

Name	Numbers Orig.	New	Builder	Built	Type	Cyl.	Drvs.	N. Y. C. Nos. 1st.	2nd.	B. & A. 1912 No.
Barnstable	—	—	Locks & Canals	1835	2-2-0	—	—	—	—	—
Dukes	—	—	" " "	1836	2-2-0	—	—	—	—	—
Essex	—	—	" " "	1836	2-2-0	—	—	—	—	—
New York	—	—	" " "	1842	4-2-0	—	—	—	—	—
New York	1	—	B. & A.	1867	4-4-0	16x26	60	—	—	—
—	1	55	"	1884	4-4-0	20x26	54	715	—	—
Rhode Island	—	—	Locks & Canals	1842	4-2-0	—	—	—	—	—
Rhode Island	2	—	B. & A.	1868	4-4-0	16x26	60	—	—	—
—	2	2	"	1891	0-4-0	16x24	48	84	—	—
New Jersey) Fulton)	—	—	Hinkley	1847	4-4-0	16x20	54	—	—	—
Fulton	3	3	B. & A.	1876	0-4-0	14x24	48	—	—	—
—	—	3	Sch. L. W.	1899	0-6-0	19&29x26	48	396	—	106
Massachusetts) Euxine)	—	—	Locks & Canals	1842	4-2-0	—	—	—	—	106
Euxine	4	—	B. & A.	1875	4-4-0	18x26	60	—	—	—
—	4	254	"	1891	4-4-0	18x26	66	1219	—	—
Vermont) Adriatic)	—	—	Hinkley	1846	4-4-0	16x20	54	—	—	—
Adriatic	5	—	B. & A.	1873	4-4-0	17x26	54	—	—	—
—	5	279	"	1892	4-4-0	18x22	60	1207	1177	218
Connecticut	—	—	Hinkley	1846	4-4-0	15x20	54	—	—	—
Connecticut	6	—	B. & A.	1873	4-4-0	17x26	54	—	—	—
—	6	235	"	1891	4-4-0	18x22	60	1182	—	220
Florida	—	—	Hinkley	1848	4-4-0	14x18	56	—	—	—
Florida	7	—	B. & A.	1878	4-4-0	18¾x28	54	—	—	—
—	7	237	"	1892	4-4-0	18x22	60	1184	—	222–214
Kentucky	—	—	Hinkley	1846	4-4-0	16x20	54	—	—	—
Kentucky	8	63	"	1876	4-4-0	18x26	60	—	—	—
—	—	63	Sch. L. W.	1895	2-8-0	20x26	48	2510	—	946
Tennessee	—	—	Hinkley	1846	4-4-0	16x20	54	—	—	—
Tennessee	9	50	B. & A.	1878	4-4-0	18¾x28	54	—	—	—
—	—	50	Sch. L. W.	1895	2-8-0	20x26	48	2506	—	942
Buffalo	—	—	Hinkley	1847	4-4-0	16x20	60	—	—	—
Vermont	10	—	B. & A.	1871	4-4-0	16x26	60	—	—	—
—	10	61	Baldwin	1890	2-8-0	20x26	48	2533	—	905
Virginia	—	—	Hinkley	1846	4-4-0	16x20	54	—	—	—
—	11	—	B. & A.	1876	4-4-0	18x26	60	—	—	—
—	11	285	R. I. L. W.	1893	4-6-0	20x26	66	Later No. 163		—

Name	Numbers Orig.	Numbers New	Builder	Built	Type	Cyl.	Drvs.	N. Y. C. Nos. 1st.	N. Y. C. Nos. 2nd.	B. & A. 1912 No.
—	11	285	R. I. L. W.	1893	4-6-0	20x26	66	Later No. 163		—
—	—	285	Sch. L. W.	1900	4-4-0	20x26	75	1139	—	249
Indianapolis	—	—	Hinkley	1848	4-4-0	16x20	60	—	—	—
Trojan	12	—	B. & A.	1871	0-4-0	15x22	48	—	—	—
—	12	286	R. I. L. W.	1893	4-6-0	20x24	66	Later No. 164		
—	—	286	Sch. L. W.	1900	4-4-0	20x26	75	1140	—	250
Bristol	—	—	Locks & Canals	1835	2-2-0	—	—	—	—	—
Bristol	—	—	Hinkley	1848	4-4-0	15x20	60	—	—	—
Bristol	13	—	B. & A.	1869	4-4-0	16x26	60	—	—	—
—	13	13	R. I. L. W.	1891	0-4-0	16x24	48	87	—	—
St. Louis	—	—	Hinkley	1843	4-4-0	13½x20	60	—	—	—
Agawam	14	—	"	1871	0-4-0	15x22	48	—	—	—
—	14	14	B. & A.	1890	0-4-0	16x24	48	88	—	—
Chicago) Beebe)	—	—	Hinkley	1848	4-4-0	16x20	60	—	—	—
Beebe	15	—	B. & A.	1876	4-4-0	18x22	66	—	—	—
—	15	115	R. I. L. W.	1891	2-8-0	20x26	48	2569	2503	939
Columbus	—	—	Hinkley	1848	4-4-0	16x20	60	—	—	—
Columbus	16	—	B. & A.	1871	4-4-0	16x26	60	—	—	—
Delaware	—	—	Hinkley	1847	4-4-0	16x20	54	—	—	—
Delaware	17	—	B. & A.	1870	4-4-0	16x26	60	—	—	—
—	17	17	R. I. L. W.	1891	0-4-0	16x24	48	89	—	—
Detroit	—	—	Hinkley	1847	4-4-0	16x20	60	—	—	—
Detroit	18	—	R. I. L. W.	1869	0-4-0	16x24	48	—	—	—
—	18	118	B. & A.	1881	4-4-0	18x26	54	—	—	—
Georgia	—	—	Hinkley	1848	4-4-0	16x20	60	—	—	—
Georgia	19	281	R. I. L. W.	1893	4-4-0	19x26	66	1165	—	—
Franklin	—	—	Locks & Canals	1840	4-2-0	—	—	—	—	—
Franklin	—	—	Hinkley	1848	4-4-0	16x20	66	—	—	—
Franklin	20	—	B. & A.	1868	4-4-0	16x26	60	—	—	—
—	20	282	R. I. L. W.	1893	4-4-0	19x26	66	1167	—	—
Iowa	—	—	Hinkley	1847	4-4-0	16x20	54	—	—	—
Iowa	21	215	B. & A.	1870	4-4-0	16x26	60	—	—	—
—	—	215	Sch. L. W.	1895	4-4-0	20x24	66	1148	—	225
Louisiana	—	—	Hinkley	1847	4-4-0	16x20	54	—	—	—
Louisiana	22	22	B. & A.	1874	4-4-0	18x26	60	—	—	—
—	—	22	R. I. L. W.	1893	0-6-0	19x24	48	390	—	104
Louisville	—	—	Hinkley	1848	4-4-0	16x20	60	—	—	—
Louisville	23	—	B. & A.	1869	4-4-0	16x26	60	—	—	—
—	23	69	"	1885	4-4-0	20x26	54	718	—	—

Name	Numbers Orig.	New	Builder	Built	Type	Cyl.	Drvs.	N. Y. C. Nos. 1st.	2nd.	B. & A. 1912 No.
Maine	—	—	Hinkley	1846	4-4-0	16x20	54	—	—	—
Maine	24	—	B. & A.	1870	4-4-0	16x26	60	—	—	—
—	24	24	R. I. L. W.	1891	0-4-0	16x24	48	91	—	—
Mississippi	—	—	Hinkley	1847	4-4-0	16x20	54	—	—	—
Mississippi	25	—	B. & A.	1869	4-4-0	16x26	60	—	—	—
—	25	97	"	1886	4-4-0	20x26	54	724	—	—
Montreal) Shaker)	—	—	Hinkley	1848	4-4-0	16x20	60	—	—	—
Shaker	26	—	B. & A.	1878	4-4-0	18x22	72	—	—	—
—	26	283	R. I. L. W.	1893	4-4-0	19x24	66	1166	—	204
Nashville	27	—	Hinkley	1848	4-4-0	16x20	60	—	—	—
Nasville	27	—	B. & A.	1877	4-4-0	18x26	54	—	—	—
—	27	284	R. I. L. W.	1893	4-4-0	19x24	66	1168	—	—
New England	—	—	Hinkley	1848	4-4-0	16x20	56	—	—	—
New England	28	—	B. & A.	1870	4-4-0	16x26	60	—	—	—
—	28	28	R. I. L. W.	1891	0-4-0	16x24	48	94	—	—
Hampshire	—	—	Locks & Canals	1840	4-2-0	—	—	—	—	—
Hampshire	—	—	Hinkley	1848	4-4-0	16x20	56	—	—	—
Hampshire	29	207	B. & A.	1870	4-4-0	16x26	60	—	—	—
—	—	207	Sch. L. W.	1895	4-4-0	20x24	66	1146	—	227
Boston	—	—	Hinkley	1843	0-4-0	15x20	48	Later 0-4-2		—
New Jersey	30	—	B. & A.	1868	4-4-0	16x26	60	—	—	—
—	30	130	"	1885	4-4-0	20x26	54	728	—	—
New Orleans	—	—	Hinkley	1848	4-4-0	16x20	60	—	—	—
New Orleans	31	—	B. & A.	1867	4-4-0	16x26	60	—	—	—
—	31	31	"	1887	0-4-0	16x24	48	95	—	—
Philadelphia	—	—	Norris	1852	—	—	—	—	—	—
Barnes	32	230	B. & A.	1877	4-4-0	18x22	66	—	—	—
—	—	230	Sch. L. W.	1894	4-4-0	19x24	66	1159	—	229
Pennsylvania	—	—	Hinkley	1847	4-4-0	16x20	54	—	—	—
Pennsylvania	33	—	B. & A.	1869	4-4-0	16x26	60	—	—	—
—	33	33	R. I. L. W.	1891	0-4-0	16x24	48	97	—	—
No. Carolina) Richmond)	—	—	Hinkley	1847	4-4-0	16x20	54	—	—	—
Richmond	34	—	B. & A.	1867	4-4-0	16x26	60	—	—	—
—	34	134	"	1887	4-4-0	20x26	54	729	—	—
So. Carolina	—	—	Hinkley	1847	4-4-0	16x20	54	—	—	—
So. Carolina	35	—	B. & A.	1874	4-4-0	18x26	60	—	—	—
—	35	87	R. I. L. W.	1891	2-8-0	20x26	48	2567	2501	937

	Numbers								N. Y. C. Nos.		B. & A.
Name	Orig.	New	Builder	Built	Type	Cyl.	Drvs.		1st.	2nd.	1912 No.
Wisconsin	—	—	Hinkley	1847	4-4-0	16x20	54		—	—	—
Wisconsin	36	—	B. & A.	1874	4-4-0	18x26	60		—	—	—
	36	231	"	1891	4-4-0	18x22	60		1179	—	219
—			"	1871	4-4-0	16x26	60		—	—	—
Middlefield	37	—		1891	0-4-0	16x24	48		99	89	1
—	37	37	R. I. L. W.	1848	4-4-0	16x20	54		—	—	—
Erie	—	—	Taunton	1870	4-4-0	16x26	60		—	—	—
Erie	38	—	B. & A.	1889	4-4-0	18x22	60		1180	—	212
—	38	233	"	1848	4-4-0	16x20	54		—	—	—
Champion	—	—	Taunton	1876	4-4-0	18x26	60		—	—	—
Marmora	39	—	B. & A.	1891	2-8-0	20x26	48		2568	2502	938
—	39	93	R. I. L. W.	1848	4-4-0	16x20	54		—	—	—
St. Lawrence	—	—	Taunton	1876	4-4-0	18x24	72		—	—	—
Howard	40	—	B. & A.	1848	4-4-0	16x20	60		—	—	—
Providence	—	—	Taunton	1871	4-4-0	16x26	60		—	—	—
Providence	41	—	B. & A.	1887	4-4-0	20x26	54		723	—	—
—	41	92	"	1848	4-4-0	16x20	54		—	—	—
St. Clair	—	—	Taunton	1872	4-4-0	18x22	54		—	—	—
St. Clair	42	—	B. & A.	1891	4-4-0	18x22	66		1188	—	—
—	42	246	"	1848	4-4-0	16x20	54		—	—	—
Niagara	—	—	Taunton	1869	4-4-0	16x26	60		—	—	—
Palmer	43	—	B. & A.	1886	4-4-0	20x26	54		733	—	—
—	43	166	"	1847	4-4-0	14x18	60		—	—	—
Greylock)	—	—	Hinkley								
Tobey)				1876	4-4-0	18x22	66		—	—	—
Tobey	44	—	B. & A.	1893	0-6-0	19x24	48		387	—	101
—	44	4	R. I. L. W.	1851	4-4-0	15 5/8 x26	72		As Rebuilt		—
Gilmore	—	—	Western R. R.	1879	4-4-0	18x22	72		—	—	—
Gilmore	45	—	B. & A.	1891	4-4-0	18x22	60		1176	—	217
—	45	225	"	1852	4-4-0	15 3/8 x26	72		—	—	—
Whistler	—	—	Western R. R.	1881	4-4-0	18x24	72		—	—	—
Whistler	46	232	B. & A.	1895	4-4-0	19x24	66		1160	—	235
—	—	232	Sch. L. W.	1854	4-4-0	16 3/4 x22	72		—	—	—
Wales	—	—	Western R. R.	1883	4-4-0	17x26	54		759	—	—
Wales	47	140	B. & A.	1855	4-4-0	15x22	72		—	—	—
Apollo	—	—	Mason	1873	4-4-0	17x26	54		—	—	—
Caspian	48	—	B. & A.	1892	4-4-0	20x26	54		735	—	—
—	48	109	R. I. L. W.	1855	4-4-0	15x22	72		—	—	—
Nevada	—	—	Mason	1882	4-4-0	20x26	54		757	—	—
Nevada	49	94	B. & A.								

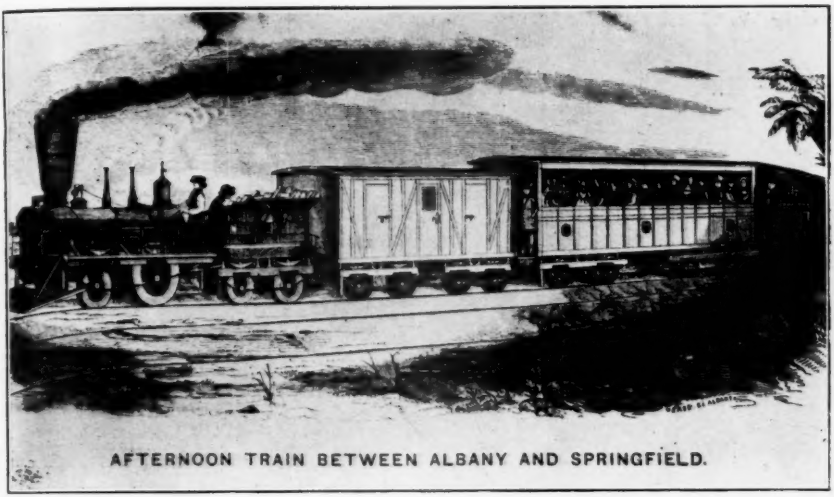
Name	Numbers Orig.	New	Builder	Built	Type	Cyl.	Drvs.	N. Y. C. Nos. 1st.	2nd.	B. & A. 1912 No.
Olympus	—	—	Mason	1855	4-4-0	15x22	72	—	—	—
Olympus	50	—	B. & A.	1880	4-4-0	18¾x28	54	—	—	—
Panama	—	—	Mason	1855	4-4-0	15x22	72	—	—	—
—	51	51	B. & A.	1883	4-4-0	20x26	54	754	—	—
Saranak	—	—	Mason	1855	4-4-0	15x22	72	—	—	—
—	52	52	B. & A.	1883	4-4-0	20x26	54	755	—	—
Sonora	—	—	Mason	1855	4-4-0	15x22	72	—	—	—
—	53	53	B. & A.	1883	4-4-0	20x26	54	756	—	—
California	—	—	Lowell Mach.	1853	4-4-0	16x22	54	—	—	—
California	54	—	B. & A.	1868	4-4-0	16x26	60	—	—	—
—	54	245	"	1886	4-4-0	18x22	66	1187	—	207
Oregon	—	—	Lowell Mach.	1853	4-4-0	16x22	54	—	—	—
Oregon	55	—	B. & A.	1873	4-4-0	17x26	54	—	—	—
—	55	1	R. I. L. W.	1893	0-6-0	19x24	48	386	—	100
Texas	—	—	Lowell Mach.	1853	4-4-0	16x22	54	—	—	—
Texas	56	—	R. I. L. W.	1869	0-4-0	16x24	48	—	—	—
—	56	256	B. & A.	1888	4-4-0	18x22	66	1193	—	——
Cleveland	—	—	Lowell Mach.	1853	4-4-0	16x22	66	—	—	—
Cleveland	57	257	B. & A.	1870	4-4-0	16x26	60	—	—	—
—	—	257	R. I. L. W.	1872	4-4-0	17x24	60	Orig. No. 211.		
Waterman) Chesapeake)	—	—	Manchester	—	—	—	—	—	—	—
Chesapeake	58	—	B. & A. R. R.	1880	4-4-0	18¾x28	54	—	—	—
—	58	11	R. I. L. W.	1893	0-6-0	19x24	48	388	—	102
G. C. Alogg) Alger)	—	—	Spgfld L. W.	1858	—	—	—	—	—	—
Alger	59	59	B. & A.	1879	4-4-0	18x26	60	—	—	—
Switcher	—	—	—	—	—	—	—	—	—	—
Pusher	60	—	Hinkley	1871	0-4-0	15x22	48	—	—	—
—	60	260	B. & A.	1891	4-4-0	18x22	60	1195	—	221
San Francisco) H. M. Holbrook)	—	—	Taunton	1854	4-4-0	16x20	72	—	—	—
Cummings	61	206	B. & A.	1877	4-4-0	18x24	72	—	—	—
—	—	206	Sch. L. W.	1895	4-4-0	20x24	66	1145	—	226
Albany	—	—	Ross Winans	1842	0-8-0	—	—	—	—	—
Albany	—	—	Bemis & Co.	1857	4-4-0	—	—	—	—	—
Albany	62	62	B. & A.	1873	4-4-0	17x26	54	—	—	—
—	—	62	Sch. L. W.	1894	2-8-0	20x26	48	2509	—	945
United States	—	—	Baldwin	1844	0-6-0	16½x18	46	—	—	—

Name	Numbers Orig.	Numbers New	Builder	Built	Type	Cyl.	Drvs.	N. Y. C. Nos. 1st.	N. Y. C. Nos. 2nd.	B. & A. 1912 No.
United States	—	—	Baldwin	1844	0-6-0	16½x218	72	—	—	—
Bliss	63	—	Western R. R.	1857	4-4-0	15½x26	72	—	—	—
—	63	263	B. & A.	1882	4-4-0	18x26	60	1223	—	—
Pacific	—	—	Baldwin	1844	0-6-0	16½x18	46	—	—	—
Baltic	64	—	Spgfld L. W.	1857	4-4-0	16x26	60	—	—	—
—	64	64	R. I. L. W.	1891	2-8-0	20x26	48	2566	2500	936
Atlantic	—	—	Baldwin	1844	0-6-0	16½x18	46	—	—	—
Atlantic	65	—	Spgfld L. W.	1857	4-4-0	16x26	60	—	—	—
—	65	65	B. & A.	1886	4-4-0	20x26	54	716	—	—
Ontario	—	—	Taunton	1848	4-4-0	14x18	60	—	—	—
Champlain	66	—	Western R. R.	1859	4-4-0	16x26	60	—	—	—
—	66	66	Baldwin	1891	2-8-0	20x26	48	2535	—	907
Superior	67	—	Western R. R.	1859	4-4-0	16x26	60	—	—	—
—	67	67	B. L. W.	1891	2-8-0	20x26	48	2535	—	907
Swift	68	—	Western R. R.	1858	4-4-0	16¾x22	72	—	—	—
—	68	68	B. & A.	1884	4-4-0	20x26	54	717	—	—
Augusta	—	—	Taunton	1848	4-4-0	16x20	54	—	—	—
Dwight	69	—	Western R. R.	1860	4-4-0	16¾x22	72	—	—	—
—	69	23	B. & A.	1883	0-4-0	14x24	48	102	—	—
Cincinnati	—	—	Hinkley	1843	4-4-0	13½x20	60	—	—	—
Massachusetts	70	—	Western R. R.	1861	4-4-0	16x26	60	—	—	—
—	70	70	Baldwin	1891	2-8-0	20x26	48	2536	—	908
Huron	71	—	Western R. R.	1862	4-4-0	16x26	60	—	—	—
—	71	71	Baldwin	1891	2-8-0	20x26	48	2537	—	909
Henry Gray	72	—	Western R. R.	1858	4-4-0	16x26	60	—	—	—
—	72	26	B. & A.	1885	0-4-0	16x24	48	92	—	—
Alabama	—	—	Hinkley	1848	4-4-0	16x20	56	—	—	—
Chapin	73	—	Western R. R.	1864	4-4-0	16¾x22	72	—	—	—
—	73	73	B. & A.	1884	4-4-0	20x26	54	719	—	—
Springfield	—	—	Hinkley	1845	4-4-0	13½x20	60	—	—	—
Springfield	74	—	Western R. R.	1865	4-4-0	16¾x22	72	—	—	—
—	74	74	B. & A.	1883	4-4-0	20x26	54	720	—	—
Worcester	—	—	Locks & Canals	1841	4-2-0	—	—	—	—	—
Worcester	75	—	Western R. R.	1865	4-4-0	16¾x22	72	—	—	—
—	75	75	B. & A.	1884	4-4-0	20x26	54	721	—	—
Pittsfield	—	—	Hinkley	1846	4-4-0	13½x20	60	—	—	—
Pittsfield	76	—	Western R. R.	1865	4-4-0	16x26	60	—	—	—
—	76	76	Baldwin	1888	2-8-0	20x26	48	2539	—	911
Nantucket	—	—	Locks & Canals	1840	4-2-0	—	—	—	—	—
Nantucket	—	—	Taunton	1848	4-4-0	16x20	54	—	—	—

Name	Numbers Orig.	New	Builder	Built	Type	Cyl.	Drvs.	N. Y. C. Nos. 1st.	2nd.	B. & A. 1912 No.
Nantucket	77	—	Western R. R.	1863	4-4-0	16x26	60	—	—	—
—	77	77	Baldwin	1888	2-8-0	20x26	48	2540	—	912
Minnesota	78	—	Western R. R.	1866	4-4-0	16x26	60	—	—	—
—	78	78	Baldwin	1890	2-8-0	20x26	48	2541	—	913
Colorado	79	—	Western R. R.	1866	4-4-0	16x26	60	—	—	—
—	79	79	Baldwin	1890	2-8-0	20x26	48	2542	—	914
Concord	—	—	Taunton	1848	4-4-0	16x20	54	—	—	—
Concord	80	—	Western R. R.	1866	4-4-0	16x26	60	—	—	—
—	80	80	Baldwin	1890	2-8-0	20x26	48	2543	—	915
Montana	81	—	Western R. R.	1866	4-4-0	16x26	60	—	—	—
—	81	81	B. & A.	1886	4-4-0	20x26	54	722	—	—
Dacotah	82	—	Western R. R.	1866	4-4-0	16x26	60	—	—	—
—	82	82	Baldwin	1890	2-8-0	20x26	48	2544	—	916
Arizona	83	—	Western R. R.	1866	4-4-0	16x26	60	—	—	—
Arizona	83	83	B. & A.	1880	4-4-0	18¾x28	54	—	—	—
—	—	83	Sch. L. W.	1894	2-8-0	20x26	48	2511	—	947
Greenbush	84	—	Mason	1866	4-4-0	16x24	60	—	—	—
—	84	84	Baldwin	1888	2-8-0	20x26	48	2545	—	917
Chatham	85	—	Mason	1866	4-4-0	16x24	60	—	—	—
—	85	85	Baldwin	1888	2-8-0	20x26	48	2546	—	918
G. H. Power	86	—	Taunton	1866	4-4-0	16x24	60	—	—	—
—	86	86	B. & A.	1882	4-4-0	18x26	60	—	—	—
Hudson	87	—	Taunton	1866	4-4-0	16x24	60	—	—	—
—	87	202	B. & A.	1883	4-4-0	18x22	66	1169	—	—
Idaho	88	—	Western R. R.	1866	4-4-0	16x26	60	—	—	—
—	88	88	Baldwin	1890	2-8-0	20x26	48	2547	—	919
Nebraska	89	—	Western R. R.	1866	4-4-0	16x26	60	—	—	—
—	89	89	Baldwin	1890	2-8-0	20x26	48	2548	—	920
Michigan	—	—	Ross Winans	1842	0-8-0	—	—	—	—	—
Michigan	90	—	Western R. R.	1867	4-4-0	16x26	60	—	—	—
—	90	90	Baldwin	1890	2-8-0	20x26	48	2549	—	921
Maryland	—	—	Ross Winans	1842	0-8-0	—	—	—	—	—
Maryland	91	—	Western R. R.	1867	4-4-0	16x26	60	—	—	—
—	91	224	B. & A.	1887	4-4-0	18x22	66	1175	—	209
Sampson	92	—	Hinkley	1867	0-4-0	15x22	48	—	—	—
—	92	35	B. & A.	1888	0-4-0	16x24	48	98	—	—
Goliath	93	—	Hinkley	1867	0-4-0	15x22	48	—	—	—
—	93	39	R. I. L. W.	1891	0-4-0	16x24	48	101	83	—
Ohio	—	—	Ross Winans	1842	0-8-0	—	—	—	—	—

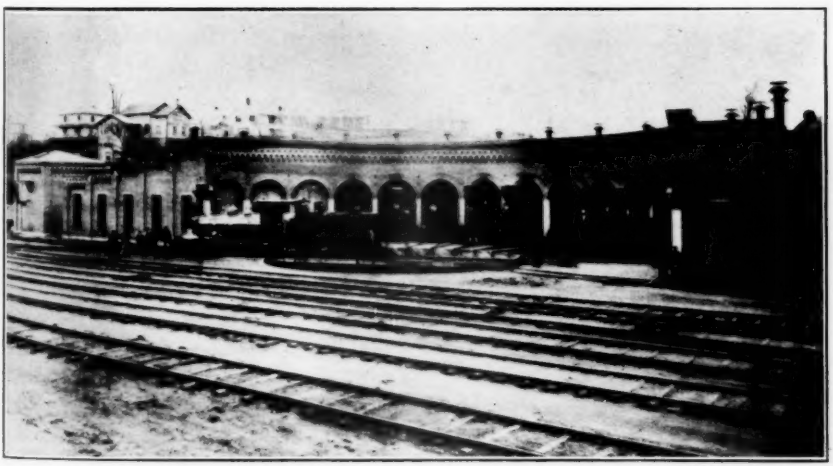
Name	Numbers Orig.	Numbers New	Builder	Built	Type	Cyl.	Drvs.	N. Y. C. Nos. 1st.	N. Y. C. Nos. 2nd.	B. & A. 1912 No.
Ohio	94	—	Hinkley	1867	4-4-0	16x24	60	—	—	—
—	94	249	B. & A.	1886	4-4-0	18x22	66	1190	—	—
Illinois	—	—	Ross Winans	1842	0-8-0	—	—	—	—	—
Illinois	95	—	Hinkley	1867	4-4-0	16x24	60	—	—	—
—	95	259	B. & A.	1885	4-4-0	18x22	66	1194	—	205–207
Missouri	—	—	Ross Winans	1842	0-8-0	—	—	—	—	—
Missouri	96	—	Western R. R.	1867	4-4-0	16x26	60	—	—	—
—	96	204	B. & A.	1890	4-4-0	18x22	66	1171	—	213
Indiana	—	—	Ross Winans	1842	0-8-0	—	—	—	—	—
Indiana	97	—	Western R. R.	1867	4-4-0	16x26	60	—	—	—
Indiana	97	—	B. & A.	1878	4-4-0	18x26	60	—	—	—
—	97	25	R. I. L. W.	1893	0-6-0	19x24	48	391	—	105
Arkansas	—	—	Ross Winans	1842	0-8-0	—	—	—	—	—
Arkansas	98	—	Western R. R.	1867	4-4-0	16x26	60	—	—	—
—	98	32	R. I. L. W.	1891	0-4-0	16x24	48	96	—	—
Alaska	99	—	Western R. R.	1867	4-4-0	16x26	60	—	—	—
—	99	5	R. I. L. W.	1891	0-4-0	16x24	48	85	—	—
Suffolk	—	—	Locks & Canals	1841	4-2-0	—	—	—	—	—
Suffolk	100	—	Grant L. W.	1867	4-4-0	16x24	66	—	—	—
—	100	100	B. & A.	1883	4-4-0	20x26	54	726	—	—
Middlesex	—	—	Locks & Canals	1840	4-2-0	—	—	—	—	—
Middlesex	101	—	Grant L. W.	1867	4-4-0	16x24	66	—	—	—
—	101	280	B. & A.	1884	4-4-0	18x22	66	1208	—	—
Hampden	—	—	Locks & Canals	1840	4-2-0	—	—	—	—	—
Hampden	102	—	Grant L. W.	1867	4-4-0	16x24	66	—	—	—
—	102	251	B. & A.	1884	4-4-0	18x22	66	1191	—	—
Berkshire	—	—	Locks & Canals	1836	2-2-0	—	—	—	—	—
Berkshire	103	—	Grant L. W.	1867	4-4-0	16x24	66	—	—	—
—	103	203	B. & A.	1884	4-4-0	18x22	66	1170	—	—
Putnam	104	—	"	1868	4-4-0	16x26	60	—	—	—
—	104	104	Baldwin	1891	2-8-0	20x26	48	2553	—	925
Washington	—	—	Hinkley	1846	4-4-0	13½x20	60	—	—	—
Washington	105	—	B. & A.	1868	4-4-0	16x26	60	—	—	—
—	105	105	Baldwin	1891	2-8-0	20x26	48	2554	—	926
Plymouth	—	—	Locks & Canals	1841	4-2-0	—	—	—	—	—
Plymouth	106	—	B. & A.	1868	4-4-0	16x26	66	—	—	—
—	106	106	"	1885	4-4-0	20x26	54	727	—	—
Norfolk	—	—	Locks & Canals	1841	4-2-0	—	—	—	—	—
Norfolk	107	16	B. & A.	1868	4-4-0	16¾x22	66	—	—	—

Name	Numbers Orig.	Numbers New	Builder	Built	Type	Cyl.	Drvs.	N. Y. C. Nos. 1st.	N. Y. C. Nos. 2nd.	B. & A. 1912 No.
—	—	16	R. I. L. W.	1893	0-6-0	19x24	48	389	—	103
Wyoming	108	—	B. & A.	1868	4-4-0	16x26	60	—	—	—
—	108	108	Baldwin	1891	2-8-0	20x26	48	2556	—	928
Brookfield	109	—	B. & A.	1869	4-4-0	16x26	60	—	—	—
—	—	209	Sch. L. W.	1895	4-4-0	20x24	66	1147	—	224
Ajax	—	—	Hinkley	1846	4-4-0	15x20	54	—	—	—
Ajax	110	—	B. & A.	1872	4-4-0	16x22	60	—	—	—
—	110	262	"	1888	4-4-0	18x22	66	1196	—	—
Hercules	—	—	Hinkley	1846	4-4-0	15x20	54	—	—	—
Hercules	111	111	B. & A.	1877	4-4-0	18x26	60	—	—	—
Elephant	—	—	Baldwin	1837	———	—	—	—	—	—
Elephant	—	—	Hinkley	1847	4-4-0	16x20	54	—	—	—
Elephant	112	12	B. & A.	1874	0-4-0	14x24	48	—	—	—
Neptune	—	—	Hinkley	1847	4-4-0	15x18	66	—	—	—
Neptune	113	113	B. & A.	1877	4-4-0	18x26	60	—	—	—
Yankee	—	—	Mill Dam Fdy	1834	———	—	—	—	—	—
Yankee	—	—	Hinkley	1847	4-4-0	15x18	66	—	—	—
Yankee	114	114	B. & A.	1868	4-4-0	16x22	60	—	—	—
—	—	114	Sch. L. W.	1895	2-8-0	20x26	48	2514	—	950
W. Penn	—	—	Baldwin	1846	———	—	—	—	—	—
W. Penn	—	—	Hinkley	1847	4-4-0	15x18	66	—	—	—
W. Penn	115	255	B. & A.	1869	4-4-0	16x22	66	—	—	—
—	—	255	R. I. L. W.	1872	4-4-0	16x24	60	Was No. 210		
Lion) Brookline)	—	—	Bury England	1836	———	11x16	60	—	—	—
Brookline	116	221	B. & A.	1880	4-4-0	18x26	60	Later No. 101		
—	—	221	Sch. L. W.	1899	4-6-0	23&34x26	66	2031	—	703
Hecla	117	—	Bos. & Wor.	1849	———	16x20	54	—	—	—
Hecla	117	117	B. & A.	1878	4-4-0	18x26	60	—	—	—
Niagara	118	—	Wilmarth	1848	4-4-0	16x20	54	—	—	—
Niagara	118	18	B. & A.	1875	0-4-0	14x24	48	—	—	—
—	—	18	Sch. L. W.	1899	0-6-0	19&29x26	48	393	—	107
Bee	—	—	Wilmarth	1848	———	—	—	—	—	—
Bee	119	—	B. & A.	1871	4-4-0	16x22	60	—	—	—
—	119	219	"	1891	4-4-0	18x22	66	1173	—	215
Vesuvius	—	—	Bos. & Wor.	1848	———	—	—	—	—	—
Vesuvius	120	20	R. I. L. W.	1870	0-4-0	14x22	48	—	—	—
—	—	20	Sch. L. W.	1894	0-6-0	19x24	48	399	—	113
D. Henshaw	—	—	Wilmarth	1851	4-4-0	16x20	66	—	—	—



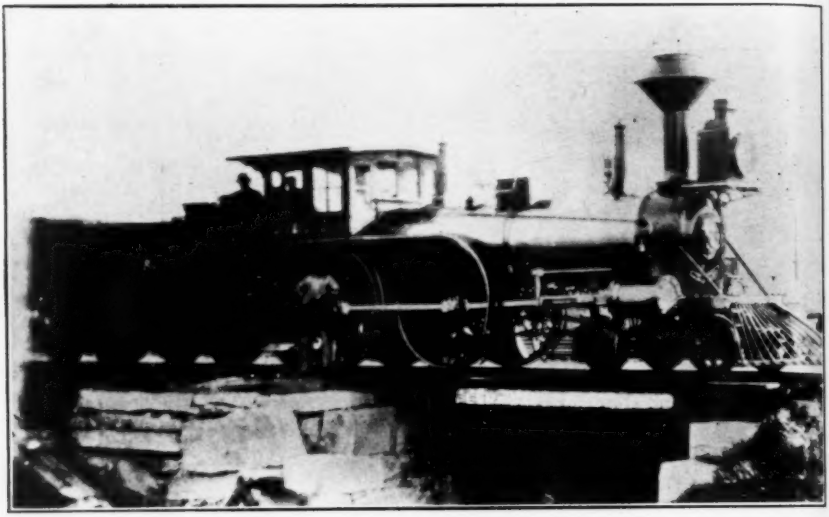
AFTERNOON TRAIN BETWEEN ALBANY AND SPRINGFIELD.

COPY OF AN OLD DAGUERREOTYPE MADE IN 1842, SHOWING LOCKS & CANAL LOCOMOTIVE ON WESTERN R. R. TRAIN

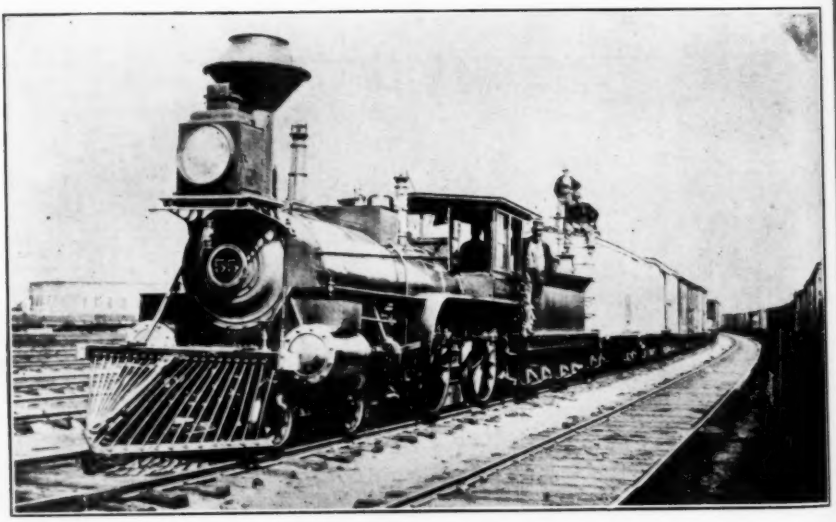


THE ENGINE HOUSE AT PITTSFIELD, MASS. WESTERN R. R. "SARANAK", MASON, 1855.

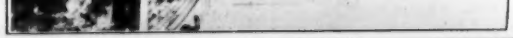
D. Henshaw — — Wilmarth — — 1851 4-4-0 16x20 66



B & A #74, "SPRINGFIELD," BUILT BY W. R. R. 1865.



B & A #55, "OREGON" BUILT BY B & A R. R. 1873.



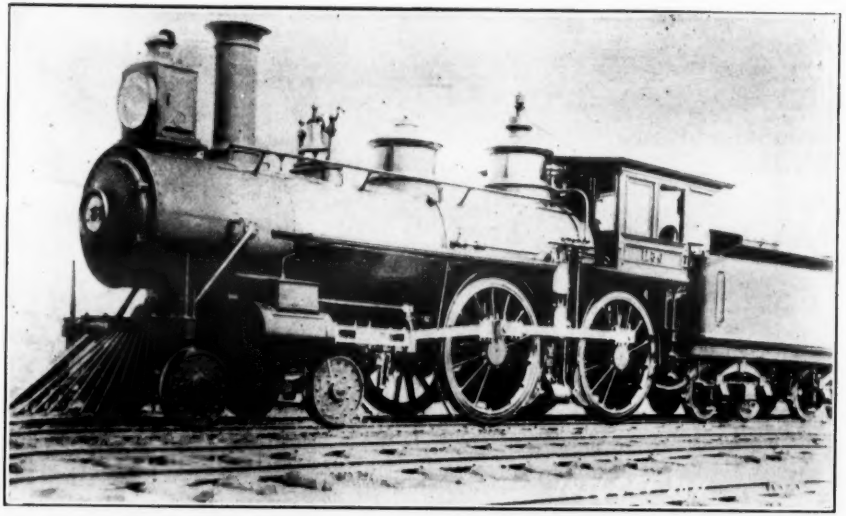
Name	Numbers Orig.	Numbers New	Builder	Built	Type	Cyl.	Drvs.	N. Y. C. Nos. 1st.	N. Y. C. Nos. 2nd.	B. & A. 1912 No.
D. Henshaw	121	216	B. & A.	1873	4-4-0	16x22	66	—	—	—
—	—	216	Sch. L. W.	1895	4-4-0	20x24	66	1154	—	230
N. Hale	—	—	Wilmarth	1851	4-4-0	16x20	66	—	—	—
N. Hale	122	222	B. & A.	1874	4-4-0	16x22	60	—	—	—
—	—	222	Sch. L. W.	1895	4-4-0	19x24	66	1157	—	233
Worcester	—	—	Mason	1854	4-4-0	14x22	72	—	—	—
Worcester	123	229	Bos. & Wor.	1866	4-4-0	15x22	60	—	—	—
—	—	229	Sch. L. W.	1895	4-4-0	19x24	66	1158	—	234
Tiger	—	—	Hinkley	1842	0-4-0	13½x20	48	—	—	—
Tiger	—	—	"	1854	4-4-0	15x24	60	—	—	—
Tiger	124	241	B. & A.	1876	4-4-0	17x22	60	1212	—	—
Express	—	—	Bos. & Wor.	1858	4-4-0	16x21	72	—	—	—
Express	125	253	B. & A.	1876	4-4-0	17x22	66	—	—	—
—	—	253	Sch. L. W.	1900	4-4-0	18x24	69	1214	1135	245
Boston	—	—	R. Stephenson	1832	2-2-0	—	—	—	—	—
Boston	—	—	Hinkley	1855	4-4-0	15x24	60	—	—	—
Boston	126	261	B. & A.	1875	4-4-0	17x22	66	—	—	—
—	—	261	Sch. L. W.	1900	4-4-0	18x24	69	1222	1138	248
Despatch	—	—	Bos. & Wor.	1858	4-4-0	16x21	72	"Prince of Wales" in 1860.		
Despatch	127	227	B. & A.	1877	4-4-0	17x22	60	1177	—	—
Camel	—	—	Hinkley	1844	4-8-0	13½x20	36	—	—	—
Camel	128	—	Taunton	1860	4-4-0	15x22	60	—	—	—
—	128	213	B. & A.	1881	4-4-0	18x26	60	1217	—	—
Bison	—	—	Wilmarth	1848	4-4-0	—	—	—	—	—
Bison	129	—	Mason	1861	4-4-0	15x22	60	—	—	—
—	129	220	B. & A.	1881	4-4-0	18x22	66	—	—	—
—	—	220	Sch. L. W.	1899	4-6-0	22&34x26	66	2030	—	702
Meteor	—	—	R. Stephenson	1834	2-2-0	—	—	—	—	—
Meteor	—	—	Locks & Canals	1839	2-2-0	—	—	—	—	—
Meteor	—	—	Portland	1860	4-4-0	—	—	—	—	—
Meteor	130	278	B. & A.	1869	4-4-0	16x22	66	—	—	—
—	—	278	"	1889	4-4-0	18x22	66	1206	Original No. 144 then 208.	
Lowell	—	—	Locks & Canals	1836	2-2-0	—	—	—	—	—
Leopard	—	—	Hinkley	1843	2-2-2	13½x20	48	—	—	—
Leopard	131	—	"	1863	——	15x20	54	—	—	—
—	131	15	B. & A.	1875	0-4-0	14x24	48	—	—	—
—	—	15	Sch. L. W.	1894	0-6-0	19x24	48	398	—	112
Panther	—	—	Hinkley	1843	0-8-0	13½x20	36	—	—	—
Panther	132	—	"	1867	4-4-0	15x24	60	—	—	—

Name	Numbers Orig.	Numbers New	Builder	Built	Type	Cyl.	Drvs.	N. Y. C. Nos. 1st.	N. Y. C. Nos. 2nd.	B. & A. 1912 No.
—	132	30	B. & A.	1882	0-4-0	14x24	48	—	—	—
Lion	—	—	Bury, England	1836	Renamed "Brookline" see No. 116					
Lion	—	—	Hinkley	1863	——	15x24	60	—	—	—
Lion	133	133	B. & A.	1879	2-6-0	17x26	54	—	—	—
Tartar	—	—	Baldwin	1839	——	—	—	—	—	—
Aetna	—	—	Wilmarth	1848	——	—	—	—	—	—
Etna	134	—	Hinkley	1863	4-4-0	15x24	60	—	—	—
—	134	234	B. & A.	1883	4-4-0	18x22	66	1181	—	—
Mars	—	—	R. Norris	1840	——	—	—	—	—	—
Mars	135	—	Mason	1864	4-4-0	16x22	66	—	—	—
—	135	265	B. & A.	1885	4-4-0	18x22	66	1197	—	206
Mercury	—	—	R. Stephenson	1835	2-2-0	—	—	—	—	—
Mercury	—	—	Hinkley	1845	4-4-0	14x18	66	—	—	—
Mercury	136	—	Mason	1864	4-4-0	16x22	66	—	—	—
—	136	236	B. & A.	1884	4-4-0	18x22	66	1183	—	—
Buffalo	137	—	Hinkley	1865	0-4-0	13x22	48	—	—	—
—	137	268	B. & A.	1883	4-4-0	18x22	66	1200	—	—
Vulcan	—	—	R. Norris	1840	——	—	—	—	—	—
Vulcan	138	238	Wm. Mason	1865	4-4-0	16x22	66	—	—	—
—	—	238	Sch. L. W.	1895	4-4-0	19x24	66	1161	—	236
Union	139	—	Wm. Mason	1865	4-4-0	16x22	66	—	—	—
—	139	239	B. & A.	1891	4-4-0	18x22	60	1185	—	—
Atlas	140	240	Wm. Mason	1866	4-4-0	16x22	60	—	—	—
—	—	240	Sch. L. W.	1895	4-4-0	19x24	66	1162	—	237
Victor	141	141	Wm. Mason	1866	4-4-0	16x22	60	? "Z. E. Coffin" in 1866.		
—	—	141	Sch. L. W.	1895	2-8-0	20x26	48	2524	—	960
Hero	142	—	Wm. Mason	1867	4-4-0	16x22	66	—	—	—
—	142	242	B. & A.	1890	4-4-0	18x22	66	1186	—	214
Titan	143	—	Wm. Mason	1867	0-4-0	16x24	48	—	—	—
—	143	10	B. & A.	1887	0-4-0	16x24	48	86	—	—
Pacific	144	—	Wm. Mason	1867	4-4-0	16x22	60	—	—	—
	144	208	B. & A.	1889	4-4-0	18x22	66	Later No. 278		
—	—	208	Sch. L. W.	1896	4-4-0	19x24	66	1149	—	240
Falcon	—	—	Wilmarth	1849	4-4-0	15x18	66	—	—	—
Falcon	145	—	Hinkley	1869	0-4-0	14x22	48	—	—	—
—	145	145	R. I. L. W.	1891	4-4-0	20x26	54	744	—	—
Comet	—	—	R. Stephenson	1835	2-2-0	—	—	—	—	—
Comet	—	—	Hinkley	1846	4-4-0	14x18	66	—	—	—
Comet	146	—	"	1869	0-4-0	14x22	48	—	—	—

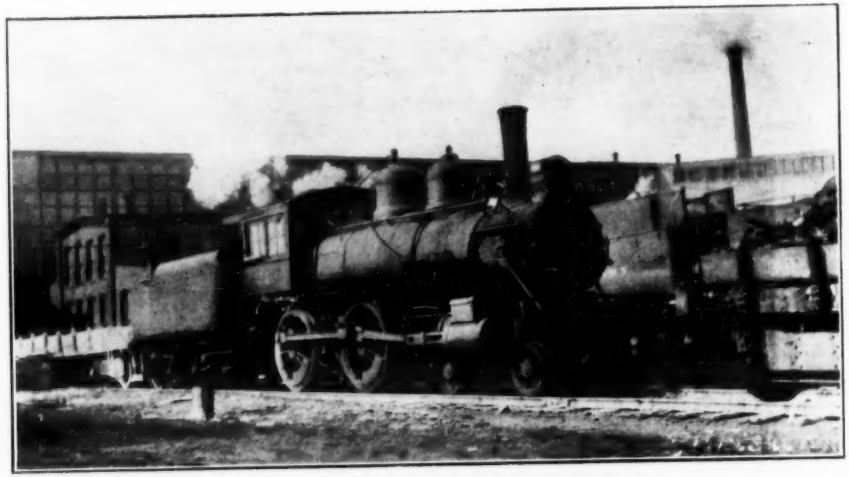
Name	Numbers Orig.	Numbers New	Builder	Built	Type	Cyl.	Drvs.	N. Y. C. Nos. 1st.	N. Y. C. Nos. 2nd.	B. & A. 1912 No.
Comet	—	—	R. Stephenson	1846	4-4-0	14x18	66	—	—	—
Comet	—	—	Hinkley	1846	4-4-0	14x22	48	—	—	—
Comet	146	—	"	1869	0-4-0					
—	146	146	R. I. L. W.	1891	4-4-0	20x26	54	745	—	—
Pony	147	—	Hinkley	1869	0-4-0	15x22	48	—	—	—
—	147	147	Baldwin	1890	2-8-0	20x26	48	2560	—	932
Barnstable	148	—	B. & A.	1869	4-4-0	16¾x22	66	—	—	—
—	148	248	"	1886	4-4-0	18x22	66	1189	—	208
Essex	149	—	"	1869	4-4-0	16¾x22	66	—	—	—
—	149	149	"	1885	4-4-0	20x26	54	731	—	—
G. Twitchell	150	250	R. I. L. W.	1869	4-4-0	18x22	66	1213	—	—
Cochituate	151	270	"	1869	4-4-0	18x22	66	1224	31	"Berkshire" 200
Hinsdale	152	—	Hinkley	1869	2-6-0	17x24	48	—	—	—
—	152	252	B. & A.	1888	4-4-0	18x22	66	1192	—	—
Dalton	153	—	Hinkley	1869	2-6-0	17x24	48	—	—	—
—	153	153	B. & A.	1887	4-4-0	20x26	54	732	—	—
Westfield	154	—	"	1869	4-4-0	16x26	60	—	—	—
—	154	154	Baldwin	1890	2-8-0	20x26	48	2561	—	933
Chester	155	—	B. & A.	1869	4-4-0	16x26	60	—	—	—
—	155	155	"	1886	4-4-0	20x26	54	760	—	—
Russel	156	—	"	1869	4-4-0	16x26	60	—	—	—
—	156	156	Baldwin	1891	2-8-0	20x26	48	2562	—	934
Jupiter	—	—	R. Stephenson	1836	2-2-0	11x16	60	—	—	—
Jupiter	—	—	Hinkley	1845	4-4-0	14x18	66	—	—	—
Jupiter	157	—	B. & A.	1869	4-4-0	16x22	60	—	—	—
—	157	27	"	1889	0-4-0	16x24	48	93	—	—
Rocket	—	—	R. Stephenson	1835	2-2-0	—	—	—	—	—
Rocket	—	—	Hinkley	1847	4-4-0	15x18	66	—	—	—
Rocket	158	—	"	1870	0-4-0	14x22	48	—	—	—
—	158	158	R. I. L. W.	1891	4-4-0	20x26	54	748	1226	—
D. W. Lincoln	159	271	B. & A.	1870	4-4-0	17x22	66	1216	—	—
Huntington	160	—	"	1869	4-4-0	16x26	60	—	—	—
—	160	160	R. I. L. W.	1892	4-4-0	20x26	54	750	—	202
Shawmut	161	—	B. & A.	1870	4-4-0	16¾x22	66	—	—	—
—	161	161	Sch. L. W.	1893	2-8-0	20x26	48	2527	—	963
James Parker	162	162	B. & A.	1870	4-4-0	16¾x22	66	—	—	—
—	—	162	Sch. L. W.	1893	2-8-0	20x26	48	2528	2504	940
Fury	—	—	Wilmarth	1849	4-4-0	15x18	66	—	—	—
Fury	163	163	B. & A.	1870	4-4-0	16x22	60	—	—	—
—	—	163	R. I. L. W.	1893	4-6-0	Orig. No. 11		2158	2032	700
W. Bliss	164	164	B. & A.	1871	4-4-0	17x22	66	—	—	—

Name	Numbers Orig.	New	Builder	Built	Type	Cyl.	Drvs.	N. Y. C. Nos. 1st.	2nd.	B. & A. 1912 No.
—	—	164	R. I. L. W.	1893	4-6-0	Orig. No. 12		2159	2033	701
Charlton	165	—	B. & A.	1870	4-4-0	16x26	60	—	—	—
—	165	165	Baldwin	1890	2-8-0	20x26	48	2563	—	935
Adams	166	—	B. & A.	1870	4-4-0	16x26	60	—	—	—
—	166	266	"	1890	4-4-0	18x22	66	1198	—	—
Becket	167	—	"	1870	4-4-0	16x26	60	—	—	—
—	167	267	"	1887	4-4-0	18x22	66	1199	—	—
Wilbraham	168	—	"	1871	4-4-0	16x26	60	—	—	—
—	168	163	Sch. L. W.	1893	2-8-0	20x26	48	2529	2505	941
Lebanon	169	—	Hinkley & Wms.	1871	4-4-0	16x24	60	—	—	—
—	169	269	B. & A.	1882	4-4-0	18x22	66	1201	—	—
Stanwix	170	—	Hink. & Wms.	1871	4-4-0	16x24	60	—	—	—
—	170	38	B. & A.	1886	0-4-0	16x24	48	100	82	—
Delavan	171	—	Hink. & Wms.	1871	4-4-0	16x24	60	—	—	—
—	171	99	B. & A.	1884	4-4-0	20x26	54	725	—	—
Warren	172	—	"	1871	4-4-0	16x26	60	—	—	—
—	172	152	Sch. L. W.	1893	2-8-0	20x26	48	2526	—	962
Newton	173	—	Wm. Mason	1871	4-4-0	16x22	60	—	—	—
—	173	273	B. & A.	1890	4-4-0	18x22	66	1202	—	—
Natic	174	131	Wm. Mason	1871	4-4-0	16x22	60	—	—	—
—	—	131	Sch. L. W.	1895	2-8-0	20x26	48	2521	—	957
Alabama	175	—	B. & A.	1871	4-4-0	16x26	60	—	—	—
—	175	139	"	1887	4-4-0	20x26	54	730	—	—
Spencer	176	—	"	1871	4-4-0	16x26	60	—	—	—
—	176	137	Sch. L. W.	1893	2-8-0	20x26	48	2523	—	959
Brimfield	177	—	B. & A.	1871	4-4-0	16x26	60	—	—	—
—	177	228	"	1887	4-4-0	18x22	66	1178	—	210
Rochdale	178	—	"	1871	4-4-0	16x26	60	—	—	—
—	178	148	R. I. L. W.	1892	4-4-0	20x26	54	746	—	—
Allston	179	—	Hink. & Wms.	1871	0-4-0	14x22	48	—	—	—
—	179	132	R. I. L. W.	1892	4-4-0	20x26	54	751	—	—
Brighton	180	101	B. & A.	1871	2-6-0	17x24	60	—	—	—
—	—	101	"	1880	4-4-0	18x26	60	758	Orig. No. 116-221	
Sacramento	181	—	"	1880	4-4-0	18x24	66	—	—	—
—	181	91	Sch. L. W.	1893	2-8-0	20x26	48	2512	—	948
Tatham	182	—	R. I. L. W.	1871	2-6-0	17x24	54	—	—	—
—	182	223	B. & A.	1891	4-4-0	18x22	60	1174	—	216
Tekoa	183	—	R. I. L. W.	1871	2-6-0	17x24	54	—	—	—
—	183	107	Baldwin	1890	2-8-0	20x26	48	2555	—	927

Teron	183	107	Baldwin	1890	2-8-0	20x26	48	2555	—	927
—										



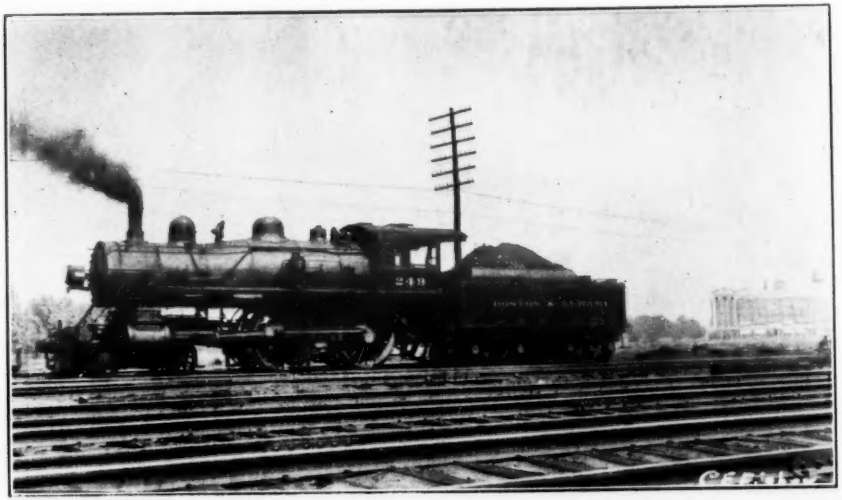
B & A #136. BUILT BY B & A R. R. 1884.



B & A #218. BUILT BY B & A R. R. 1892.
Photo at Springfield, Mass., 1925, Previous to Scrapping.

Name	Numbers Orig.	New	Builder	Built	Type	Cyl.	Drvs.	N. Y. C. Nos. 1st.	2nd.	B. & A. 1912 No.
Onota	184	—	R. I. L. W.	1871	2-6-0	17x24	54	—	—	—
—	184	274	B. & A.	1890	4-4-0	18x22	66	1203	—	—
Globe	185	—	R. I. L. W.	1871	2-6-0	17x24	54	—	—	—
—	185	275	B. & A.	1887	4-4-0	18x22	66	1204	—	211
Luna	186	—	R. I. L. W.	1871	2-6-0	17x24	54	—	—	—
—	186	72	Baldwin	1888	2-8-0	20x26	48	2538	—	910
Juno	187	—	R. I. L. W.	1872	2-6-0	17x24	54	—	—	—
—	187	98	Baldwin	1888	2-8-0	20x26	48	2551	—	923
Mariposa	188	—	B. & A.	1871	4-4-0	17¾x22	66	—	—	—
Utah	189	—	"	1871	4-4-0	16x22	60	—	—	—
—	189	151	R. I. L. W.	1892	4-4-0	20x26	54	747	—	—
Ashland	190	258	B. & A.	1872	4-4-0	16x22	60	—	—	—
—	—	258	Sch. L. W.	1900	4-4-0	18x24	69	1221	1137	247
Cunard	191	—	Hink. & Wms.	1872	0-4-0	14x22	48	—	—	—
—	191	19	B. & A.	1890	0-4-0	16x24	48	90	—	—
Advance	192	—	"	1872	4-4-0	17x26	60	—	—	—
—	192	159	R. I. L. W.	1892	4-4-0	20x26	66	749	—	—
Wm. Jackson	193	—	B. & A.	1872	4-4-0	17x26	60	—	—	—
—	193	110	R. I. L. W.	1892	4-4-0	20x26	66	736	—	—
Westboro	194	276	B. & A.	1872	4-4-0	16x22	60	1225	—	—
Framingham	195	272	"	1872	4-4-0	16x22	60	—	—	—
DeGrand	196	164	"	1872	4-4-0	17x26	54	—	—	—
—	—	164	R. I. L. W.	1893	4-6-0	Orig. No.	12	2159	2033	701
Onward	197	—	B. & A.	1872	4-4-0	18x22	54	—	—	—
—	197	143	R. I. L. W.	1892	4-4-0	20x26	54	743	—	—
Kinderhook	198	144	B. & A.	1872	4-4-0	18x22	54	—	—	—
—	—	144	Sch. L. W.	1895	2-8-0	20x26	48	2525	—	961
Schodack	199	—	B. & A.	1872	4-4-0	18x22	54	—	—	—
—	199	277	"	1892	4-4-0	18x22	60	1205	—	—
Grantville	200	200	R. I. L. W.	1872	4-4-0	17x24	60	1209	—	—
Wellesley	201	201	"	1872	4-4-0	17x24	60	—	—	—
—	—	201	Sch. L. W.	1900	4-4-0	18x24	69	1210	1134	244
St. Louis	202	57	B. & A.	1872	4-4-0	18x22	54	—	—	—
—	—	57	Sch. L. W.	1893	2-8-0	20x26	48	2508	—	944
St. Lawrence	203	—	B. & A.	1872	4-4-0	18x24	54	—	—	—
—	203	103	R. I. L. W.	1892	4-4-0	20x26	54	734	—	—
Stockbridge	204	96	B. & A.	1872	4-4-0	18x24	54	—	—	—
—	—	96	Sch. L. W.	1893	2-8-0	20x26	48	2513	—	949
Saxonville	205	205	B. & A.	1872	4-4-0	16x22	60	—	—	—

Name	Numbers Orig.	Numbers New	Builder	Built	Type	Cyl.	Drvs.	N. Y. C. Nos. 1st.	N. Y. C. Nos. 2nd.	B. & A. 1912 No.
—	—	205	Sch. L. W.	1894	4-4-0	19x24	66	1153	—	228
Arctic	206	120	B. & A.	1872	4-4-0	17x26	54	—	—	—
—	—	120	Sch. L. W.	1893	2-8-0	20x26	48	2516	—	952
Anarctic	207	—	B. & A.	1872	4-4-0	17x26	54	—	—	—
—	207	136	R. I. L. W.	1892	4-4-0	20x26	54	741	—	201
Active	208	8	"	1873	0-4-0	14x24	48	—	—	—
—	—	8	Sch. L. W.	1894	0-6-0	19x24	48	396	—	110
Alert	209	9	R. I. L. W.	1873	0-4-0	14x24	48	—	—	—
—	—	9	Sch. L. W.	1894	0-6-0	19x24	48	397	—	111
Grafton	210	210	R. I. L. W.	1872	4-4-0	16x24	60	Later No. 255		—
—	—	210	Sch. L. W.	1896	4-4-0	19x24	66	1150	—	241
Millbury	211	211	R. I. L. W.	1872	4-4-0	17x24	60	Later No. 257		—
—	—	211	Sch. L. W.	1896	4-4-0	19x24	66	1151	—	242
Nonantum	212	212	B. & A.	1873	4-4-0	16x22	60	—	—	—
—	—	212	Sch. L. W.	1896	4-4-0	19x24	66	1152	—	243
Oceanica	213	—	B. & A.	1872	4-4-0	17x26	54	—	—	—
—	213	123	R. I. L. W.	1892	4-4-0	20x26	54	739	—	—
Dukes	214	214	B. & A.	1872	4-4-0	17x26	54	—	—	—
—	—	214	"	1893	4-4-0	18x22	60	1172	—	223
Massasoit	215	—	"	1873	4-4-0	17x26	54	—	—	—
—	215	129	R. I. L. W.	1892	4-4-0	20x26	54	740	—	—
Mexico	216	—	B. & A.	1873	4-4-0	17x26	54	—	—	—
—	216	121	R. I. L. W.	1892	4-4-0	20x26	54	737	—	—
Tremont	217	217	B. & A.	1873	4-4-0	17x26	66	—	—	—
—	—	217	Sch. L. W.	1895	4-4-0	19x24	66	1155	—	231
Olcott	218	218	B. & A.	1873	4-4-0	17x26	66	—	—	—
—	—	218	Sch. L. W.	1895	4-4-0	19x24	66	1156	—	232
Greene	219	119	R. I. L. W.	1873	2-6-0	17x24	54	1842	—	—
Penfield	220	—	"	1873	2-6-0	17x24	54	—	—	—
—	220	150	"	1892	4-6-0	20x26	54	752	—	203
Purves	221	116	"	1873	2-6-0	18x26	54	—	—	—
—	—	116	Sch. L. W.	1894	2-8-0	20x26	48	2515	—	951
Babcock	222	122	R. I. L. W.	1873	2-6-0	18x26	54	—	—	—
—	—	122	Sch. L. W.	1894	2-8-0	20x26	48	2517	—	953
Catskill	223	—	B. & A.	1873	4-4-0	18x26	54	—	—	—
—	223	157	R. I. L. W.	1892	4-4-0	20x26	54	753	—	—
Adirondack	224	—	B. & A.	1873	4-4-0	18x26	54	—	—	—
Malta	225	—	"	1873	0-4-0	14x22	48	—	—	—



B & A #249. BUILT BY SCHENECTADY, 1900.

B & A "TWENTIETH CENTURY LIMITED"—WEST BOUND.

Name	Numbers Orig.	New	Builder	Built	Type	Cyl.	Drvs.	N. Y. C. Nos. 1st.	2nd.	B. & A. 1912 No.
Wachusett) Modoc)	226	226	B. & A.	1873	4-4-0	17x22	66	1211	—	—
Mattison	227	127	R. I. L. W.	1873	2-6-0	18x26	54	—	—	—
—	—	127	Sch. L. W.	1895	2-8-0	20x26	48	2620	—	956
Allen	228	135	R. I. L. W.	1873	2-6-0	18x26	54	—	—	—
—	—	135	Sch. L. W.	1895	2-8-0	20x26	48	2522	—	958
Morris	229	123	R. I. L. W.	1873	2-6-0	18x26	54	—	—	—
—	—	123	Sch. L. W.	1895	2-8-0	20x26	48	2518	—	954
Brown	230	126	R. I. L. W.	1873	2-6-0	18x26	54	—	—	—
—	—	126	Sch. L. W.	1895	2-8-0	20x26	48	2519	—	955
Carribbean	231	—	B. & A.	1873	4-4-0	17x26	54	—	—	—
Stickney	232	—	"	1873	4-4-0	18x22	66	—	—	—
Denny	233	—	"	1873	4-4-0	18x22	66	—	—	—
Java	234	34	"	1873	0-4-0	14x24	48	—	—	—
—	—	34	Sch. L. W.	1899	0-6-0	19&29x26	48	394	—	108
Parthia	235	6	B. & A.	1874	0-4-0	14x24	48	—	—	—
Cuba	236	36	"	1874	0-4-0	14x24	48	—	—	—
—	—	36	Sch. L. W.	1894	0-6-0	19x24	48	199	400	114
China	237	7	B. & A.	1874	0-4-0	14x24	48	—	—	—
—	—	7	Sch. L. W.	1894	0-6-0	19x24	48	395	—	109
Tuscan	238	—	B. & A.	1873	4-4-0	18x26	60	—	—	—
—	238	138	R. I. L. W.	1892	4-4-0	20x26	54	742	—	—
Colt	239	—	B. & A.	1874	4-4-0	18x22	66	—	—	—
Campbell	240	—	"	1874	4-4-0	18x22	66	—	—	—
Sargent	241	—	"	1874	4-4-0	18x22	66	—	—	—
—	241	124	R. I. L. W.	1892	4-4-0	20x26	54	738	—	—
Crocker	242	—	B. & A.	1874	4-4-0	18x22	66	—	—	—
Gillett	243	243	"	1875	4-4-0	18x22	66	—	—	—
—	—	243	Sch. L. W.	1895	4-4-0	19x24	66	1163	—	238
Kimball	244	244	B. & A.	1875	4-4-0	18x22	66	—	—	—
—	—	244	Sch. L. W.	1895	4-4-0	19x24	66	1164	—	239
Shaker) Amazon)	245	54	B. & A.	1880	4-4-0	18¾x28	54	—	—	—
—	—	54	Sch. L. W.	1895	2-8-0	20x26	48	2507	—	943
—	246	21	B. & A.	1880	0-4-0	14x22	48	—	—	—
—	247	247	"	1881	4-4-0	18x26	60	—	—	—
—	—	247	Sch. L. W.	1900	4-4-0	18x24	69	1218	1136	246
Columbia	248	—	B. & A.	1880	4-4-0	18¾x28	54	—	—	—
—	249	29	B. & A.	1880	0-4-0	14x22	48	—	—	—

Name	Numbers Orig.	Numbers New	Builder	Built	Type	Cyl.	Drvs.	N. Y. C. Nos. 1st.	N. Y. C. Nos. 2nd.	B. & A. 1912 No.
—	250	—	B. & A.	1880	4-4-0	18¾x28	54	Orig. No. 254		—
—	251	102	Baldwin	1887	2-8-0	20x26	48	2552	—	924
—	252	112	"	1887	2-8-0	20x26	48	2557	—	929
—	253	125	"	1887	2-8-0	20x26	48	2558	—	930
—	254	—	B. & A.	1880	4-4-0	18¾x28	54	Renumbered 250		—
—	254	167	Baldwin	1887	2-8-0	20x26	48	2564	2528	900
—	255	142	"	1887	2-8-0	20x26	48	2559	—	931
—	256	56	"	1887	2-8-0	20x26	48	2530	—	902
—	257	169	"	1887	2-8-0	20x26	48	2565	2529	901
—	258	58	"	1887	2-8-0	20x26	48	2531	—	903
—	259	95	"	1887	2-8-0	20x26	48	2550	—	922
—	260	60	"	1887	2-8-0	20x26	48	2532	—	904
—	—	170	Sch. L. W.	1899	4-8-0	22&34x38	54	2632	3632	800
—	—	171	"	1899	4-8-0	22&34x28	54	2633	3633	801
—	—	172	"	1899	4-8-0	22&34x28	54	2634	3634	802
—	—	173	"	1899	4-8-0	22&34x28	54	2635	3635	803
—	—	174	"	1899	4-8-0	22&34x28	54	2636	3636	804
—	—	175	"	1900	4-8-0	22&34x28	54	2637	3637	805
—	—	176	"	1900	4-8-0	22&34x28	54	2638	3638	806
—	—	177	"	1900	4-8-0	22&34x28	54	2639	3639	807
—	—	178	"	1900	4-8-0	22&34x28	54	2640	3640	808
—	—	179	"	1900	4-8-0	22&34x28	54	2641	3641	809
—	—	180	"	1900	4-8-0	22&34x28	54	2642	3642	810
—	—	287	Sch. L. W.	1900	4-4-0	20x26	75	1141	—	251
—	—	288	"	1900	4-4-0	20x26	75	1142	—	252
—	—	289	"	1900	4-4-0	20x26	75	1143	—	253
—	—	290	"	1900	4-4-0	20x26	75	1144	—	254

R. I. L. W. = Rhode Island L. W.
Sch. L. W. = Schenectady L. W.

Boston and Albany Locomotives.

Some of the information disclosed in making a careful study of records, now available, for the purpose of making a list of Boston and Albany locomotives from 1832 to the present time may be of interest. There appear to have been 1020 locomotives in service on the Boston and Albany, and its predecessors the Boston and Worcester Railroad and the Western Railroad which were consolidated in 1867 to form the Boston and Albany. This number includes those now in service on the Boston and Albany but does not include those used temporarily under lease or for trial.

The Boston and Worcester's first locomotive the "Boston" came from Robert Stevenson, England, in 1832. No data is at hand regarding this locomotive but the "Lion" built by Edward Bury, Liverpool, England, in 1836 was a twelve ton machine with cylinders 11x16 inches, a single pair of driving wheels sixty inches in diameter, and a pair of trailing wheels. It would now be known as type 2-2-2. The "Lion" was renamed the "Brookline" and was in service until 1865. A second "Brookline" was built by the Boston and Albany in 1880. The "Yankee" built for the Boston and Worcester in 1834 by the Mill Dam Foundry, Boston, was the first locomotive built in New England. By 1841 the Directors of the road had evidently decided that the locomotives then in use which were of the four-wheeled type were not of the proper type as it is so stated in their report of that year.

Before we leave the Boston and Worcester, we note there were four locomotives which bore the name "Meteor." The first was built by Robert Stevenson in 1834, the second by Locks and Canals, Lowell, in 1839, the third by The Portland Company, Portland, Me., in 1860, and the last one was built by the Boston and Albany in 1869. The Director's report for 1866 states that the Boston and Worcester owned 40 locomotives at the end of that year.

The Locks and Canals Company of Lowell, Mass., built twelve ten ton locomotives for the Western Railroad during the time between 1835 and 1841. These locomotives were named for the several counties of Massachusetts. The "Barnstable" appears to be the first one as it was built in 1835. Evidently these were found to be too light for the service as they were soon replaced by heavier ones built by Hinkley at Boston. The "Gilmore" built by the Western Railroad in 1851 won the honors at the speed trial of locomotives which took place near Lowell, Mass., in 1852. At the end of 1866 the Western Railroad had 103 locomotives.

When the consolidation took place in 1867 the Boston and Worcester had 38 locomotives and the Western had 109. No doubt there were some cut up and others added as the first Boston and Albany report at the end of 1867 gives the number of locomotives as 144.

For many years the "Standard" passenger locomotive on the Boston and Albany Railroad was the "American," or 4-4-0, type weighing 45 tons, cylinders 18x22 inches, driving wheels 60 and 66 inches, and 160 lbs. boiler pressure. These were replaced by heavier locomotives of the same type during the '90's. Four of the larger ones were built by the Rhode Island Locomotive Works in 1893 and thirty-one were built by

the Schenectady Locomotive Works between 1894 and 1900 inclusive. The heaviest weighing sixty-eight tons. Nearly all of the "Standard" passenger locomotives were built by the Company at its own shops.

The "Standard" freight locomotive was of the same weight, type, and boiler pressure as the passenger locomotive but with cylinders 20x26

TIME TABLE.

WESTERN RAIL ROAD.

Times when Trains are to leave Stations.

Western Trains.—Dec. 4, 1843.

LEAVE.	Springfield to Greenbush. 1st Pass'r.	2d Pass'r.	Freight.	Greenbush to Springfield. 1st Pass'r.	2d Pass'r.	Freight.	Greenbush to St. Line	St. Line to Greenbush
Springfield,	7.00 A. M	12.45 M.	5.30 A. M.	12.30 M.	8.30 P. M	4.45 P. M.		
West Springfield,	7.04 -	12.49 -	5.40 -	12.26 -	8.26 -	4.35 -		
Westfield,	7.25 -	1.11 P. M	6.20 -	12.04 -	8.04 -	3.55 -		
Russell,	7.49 -	1.34 -	7.00 -	11.41 A. M.	7.41 -	3.10 -		
Chester Village,	8.01 -	1.46 -	7.20 -	11.29 -	7.29 -	2.51 -		
Chester Factory,	8.29 -	2.14§	8.00 -	11.09 -	7.09 -	2.14§		
Middlefield,	8.44* -	2.29 -	8.44* -	10.46 -	6.46 -	1.34 -		
Becket,	8.54	2.39 -	9.11 -	10.36 -	6.36 -	1.10 -		
Washington,	9.08 -	2.50 -	9.40 -	10.25 -	6.25 -	12.40 -		
Hinsdale,	9.18 -	3.03 -	10.12¶ -	10.12¶ -	6.12 -	12 25 -		
Dalton,	9.30 -	3.15 -	10.37 -	10.00 -	6.00 -	12.00 -		
Pittsfield,	9.45† -	3.30 -	11.30**	9.45† -	5.45 -	11.30**		
Shaker Village,	9.57‡ -	3.42 -	12.04 -	9.25 -	5.25 -	9.57‡ -		
Richmond,	10.11 -	3.56 -	12.39 -	9.11 -	5.11 -	9.25 -		
State Line,	10.21 -	4.06 -	1.04 P. M.	9.00 -	5.00 -	9.10 -	7.15 A. M.	6.00 P. M.
Canaan,	10.36 -	4.21 -	1.34 -	8.45††	4.47 -	8.45††	7.00 -	6.15 -
East Chatham,	10.49 -	4.34‖ -	2.04 -	8.32 -	4.34‖ -	8.15 -	6 47 -	6 28 -
Chatham 4 Corners,	11.14 -	4.59 -	2.54 -	8.15 -	4.15 -	7.40 -	6 30 -	6.48 -
Chatham Center,	11.31 -	5.16 -	3.24 -	7.56 -	3.58 -	7.10 -	6.11 -	7.06 -
Kinderhook,	11.41 -	5.26 -	3.48††	7.48 -	3.48††	6 55 -	6.03 -	7.15 -
Schodack,	12.05	5.49 -	4.33 -	7.25 -	3.25 -	6.05 -	5.40 -	7.38 -
Greenbush,	12.30 M.	6.15 P. M.	5.15 P. M	7.00 A. M	3.00 P. M.	5.15 A. M.	5.15 A. M.	8.03 -

The Mountain Train will be Greenbush as *Irregular* train when sufficient business offers to keep out of the way of all regular trains in going westward; not leaving State Line, however, before 6 P. M. It will be considered a regular train in going from Greenbush to St. Line.

* 1st Pass. T. to Greenbush passes Ft. T. to Greenbush at Middlefield, at 8 44 A. M.
† 1st Pass. T. to do. passes 1st Pass. T. to Springfield at Pittsfield, at 9 45 A. M.
‡ 1st Pass. T. to do. passes Freight. T. to do. at Shaker Village, at 9 57 A. M.
§ 2d Pass. T. to do. passes Freight T. to do. at C. Factory, at 2 14 P. M.
‖ 2d Pass. T. to do. passes 2d Pass. T. to do. at E. Chatham, at 4 34 P. M.
¶ Freight T. to do. passes 1st Pass. T. to do. at Hinsdale, 10 12 A. M.
** Freight T. to do. passes Freight T. to do. at Pittsfield, at 11 30, A. M.
†† Freight T. to do. passes 2d Pass. T. to do. at Kinderhook, at 3 48. P. M.
‡‡ 1st Pass. T. to Springfield passes Freight T. to do. at Canaan, at 8 45. A. M.

COPY OF WESTERN R. R. TIME TABLE, 1843.

inches and 54 inch driving wheels. These were replaced by the "Consolidation," 2-8-0, type the first of which came from the Baldwin Locomotive Works in 1887. From 1887 to 1895 sixty-four of the latter type were placed in service, 36 from Baldwin, 24 from Schenectady, and 4

from Rhode Island. The Schenectadys weighed sixty-five tons. The "Standard" locomotives were built at either the Company's shops or by the Rhode Island Locomotive Works. Some of the "Standards" were built in 1891 after the first "Consolidations" had arrived.

A four-wheeled, 0-4-0, type switching locomotive weighing 32 tons was the "Standard." It had cylinders 16x24 inches, driving wheels 48 inches in diameter, and carried a boiler pressure of 130 pounds. They were also built by both the Company and the Rhode Island Locomotive Works. The first switching locomotive of the six-wheeled, or 0-6-0, type came from the Rhode Island Works in 1893.

In 1892 there were in service on the road 40 "Standard" passenger locomotives, 40 "Standard" freight locomotives, and 18 "Standard" switching locomotives. 40 "Standard" passenger locomotives were still in service in 1899 and 18 "Standard" switching locomotives, but there were only 33 of the "Standard" freights.

248 Boston and Albany locomotives were assigned New York Central numbers after the lease in 1900 although some of the numbers may not have been placed on them. They were divided as follows:

90 Passenger locomotives the average weight of which was 50 tons.
124 Freight locomotives the average weight of which was 57 tons.
34 Switching locomotives the average weight of which was 50 tons.

When the Motive Power was relettered and renumbered by the Boston and Albany about 1912, 150 of the locomotives taken over by the New York Central were renumbered by the Boston and Albany together with 210 additional ones placed in service on the Boston and Albany by the New York Central after the lease. The following is the 1912 list:

132 Passenger locomotive the average weight of which was 96 tons.
188 Freight locomotives the average weight of which was 89 tons.
40 Switching locomotives the average weight of which was 67 tons.

Of course it will never be possible to prove whether anyone ever believed it or not but there were rumors among the uninformed that immediately after the lease the New York Central took all of the good locomotives from the Boston and Albany and replaced them with worn out locomotives from their own road. This was, of course untrue, as no locomotive was taken from the Boston and Albany for use elsewhere and with a possible exception of 2 "Moguls," 3 Grand Central Switching locomotives, and 5 "Pacifics," 10 in all, all of the locomotives put in service on the Boston and Albany after the lease were new equipment, until very recently when 15 rebuilt "Pacifics" came to the Boston and Albany.

The locomotives in service on the Boston and Albany at the present time are divided as follows:

110 Passenger locomotives having an average weight of 122 tons.
135 Freight locomotives having an average weight of 150 tons.
74 Switching locomotives having an average weight of 93 tons.

Six of the locomotives still in service were on the Boston and Albany before the lease in 1900. One of them is the Inspection locomotive

"Berkshire." This locomotive was originally built by the Rhode Island Locomotive Works in 1869 and named the "Cochituate" number 151. It has several times been rebuilt so that none of the original machine

REGULATIONS.

1. No Train must under any circumstances leave a station before its time as specified in the TIME TABLE.

2. Passenger Trains will not wait for Freight Trains—but when a meeting of Passenger Trains is expected, neither Train will leave the Station until the other arrives, or is heard from.

3. Freight Trains will in all cases wait for Passenger Trains—and be kept entirely out of their way—never leaving a Station on the time of a Passenger Train unless in consequence of positive information received from it. They will also wait for other Freight Trains at Stations appointed for passing.

4. A Freight Train must not leave a Station immediately preceding a Station where a Passenger Train is expected to pass, unless it has its full running time as specified in the TIME TABLE.

5. A red Flag must always be exhibited upon an Engine when an Engine other than that of a regular Train is to follow it—and in case a regular Train is divided into two or more distinct Trains, Flags will be kept flying upon all the Engines of the Train except the last.

6. Lanterns must be exhibited at night at the rear of all trains and no excuse will be admitted for any neglect either in exhibiting or observing this Signal.

7. All Engines on approaching a station will sound the whistle at the posts set up as signals for that purpose—pass the switch cautiously; and in all cases stop at the Station.

8. All Engines before crossing at grade the N. & W. and the H. & B. Rail Roads, will make a full stop, and proceed only when there is seen to be no obstruction.

9. All persons whatever, employed upon the road, are required to give notice of any obstruction to the passage of the trains by exhibiting a red flag conspicuously and at a sufficient distance from the obstruction, in both directions of the road—and all Conductors, Enginemen, &c., connected with the train, are required to regard such a signal, and to proceed with *extreme caution* until the cause of the obstruction is ascertained,

10. The clock at the upper depot in Worcester shall be taken to be the standard time, and all conductors before leaving Worcester are required to compare and regulate their time by that clock, and to see that the clocks at all other stations which they pass conform to the standard time. The Trains west of Springfield will in like manner be governed by the time at the Springfield depot.

REVERSE SIDE OF W. R. R. TIME TABLE, 1843.

may now exist in the present "Berkshire." It was converted into an inspection locomotive in 1903.

In addition to the "Berkshire" the remaining six include five "American" type passenger locomotives built by Schenectady in 1896 and 1900. Their original Boston and Albany numbers were 211, 212, 286, 288 and 290. All of these six remaining Boston and Albany "Old Timers" will no doubt be cut up during the year 1930 and thus remove the last connection between the old Boston and Albany and the Boston and Albany as we know it today.

Since its lease to the New York Central R. R. in 1900, the Boston & Albany R. R. has received, save in a few instances, the following new locomotives. For brevity the engines that appear are the present series of numbers inaugurated in 1912. The engines were received as follows:

			1901			
964- 972	Schenectady	2–8–0	22&34x32″	57″	187000	
			1902			
400- 405	Schenectady	4–4–2	20½x26″	79″	188500	
973- 975	"	2–8–0	22&34x32″	57″	187000	
			1903			
500- 509	Schenectady	4–6–2	21x28″	75″	221200	
976- 989	"	2–8–0	21x30″	63″	205300	
			1904			
515- 520	Schenectady	4–6–2	22x26″	75″	230000	
990- 999	"	2–8–0	23x32″	63″	220200	
			1906			
300- 309	Schenectady	2–6–6	20x24″	63″	159000	Suburban Service.
			1907			
115- 128	Rhode Island	0–6–0	21x28″	57″	162000	
310- 317	Schenectady	2–6–6	20x24″	63″	162000	Suburban Service.
521- 532	"	4–6–2	22x26″	75″	235000	
704- 728	"	4–6–0	22x26″	69″	211000	
1000-1029	"	2–8–0	23x32″	63″	237000	
			1908			
124- 135	Schenectady	0–6–0	21x28″	57″	166000	
533- 544	"	4–6–2	22x26″	75″	238000	
1030-1049	"	2–8–0	23x32″	63″	239000	
			1910			
510- 514	Schenectady	4–6–2	22x26″	75″	226500	Engines built in 1903 and transferred from N Y C R R
			1911			
545- 554	Schenectady	4–6–2	22x26″	75″	238000	
			1912			
136- 140	Manchester	0–6–0	21x28″	57″	170000	
555- 559	Schenectady	4–6–2	22x26″	75″	241000	
1050-1058	"	2–8–0	23x32″	63″	242000	
1300-1303	"	2–6–6–2	21½&34x32″	57″	354000	

1913

141- 148	Manchester	0–6–0	21x28″	57″	170000
560- 565	Schenectady	4–6–2	22x26″	75″	241000
1200-1205	"	2–8–2	25x32″	63″	283500

1914

144- 147	Schenectady	0–6–0	21x28″	57″	172000
1206-1213	"	2–8–2	25x32″	63″	283500

1915

1214-1223	Brooks	2–8–2	25x32″	63″	275500

Rebuilt from 2-8-0 type and transferred from N Y C

1916

148- 152	Schenectady	0–6–0	21x28″	57″	173000
1304-1307	"	2–6–6–2	21½&34x32″	57″	354000

1917

34- 40	Schenectady	0–8–0	23x32″	57″	194500
1308-1312	"	2–6–6–2	21½&34x32″	57″	357000

1918

30- 33	Schenectady	0–8–0	23x32″	57″	194500

Rebuilt from 2-8-0 type

42- 47	Lima	0–8–0	23½x30″	57″	216500

1919

1100-1109	Brooks	2–10–2	27x32″	57″	352000

Transferred to C C C & St L in 1926

1920

48- 49	Lima	0–8–0	25x28″	51″	219000

1921

50- 53	Lima	0–8–0	25x28″	51″	219000

1922

183	Schenectady	2–8–2	28x30″	63″	335000

Transferred to N Y C in 1926

1923

54- 61	Lima	0–8–0	23½x30″	57″	215000
184- 190	Schenectady	2–8–2	28x30″	63″	335000

Transferred to N Y C in 1926

575- 588	Schenectady	4–6–2	26x26″	72″	272000

Engines built in 1913 and received from N Y C

1924

62- 65	Schenectady	0–8–0	23½x30″	57″	218000
589	Baldwin	4–6–2	25x26″	72″	272000

Engine built in 1911 and received from N Y C

1925

590- 594	Brooks	4–6–2	26x28″	75″	298000

			1926			
595- 599	Schenectady	4–6–2		26x28″	75″	298000
1400-1424	Lima	2–8–4		28x30″	63″	385000
			1927			
1425-1444	Lima	2–8–4		28x30″	63″	385000
			1928			
400- 404	Schenectady	4–6–6		23½x26″	63″	352000
						Suburban Service
600- 604	"	4–6–4		25x28″	75″	353000
			1930			

Ten engines of the 2-8-4 type have been ordered from Lima.
Five engines of the 4-6-4 type have been ordered from Schenectady.

The reader will note that scarcely a year has passed but that this road has received new power.

Before closing this interesting list of locomotives two interesting items have come to the attention of the author, the first relating to the employment of men on the Western R. R. taken from the minutes of the meeting of March 11, 1836 and in passing it should be stated that Major Whistler, the Engineer of the road and who successfully completed it, was a West Point graduate. The other item relative to the Winan's engines is of interest as it relates to the trouble given by these engines.

"FROM CORPORATION RECORDS OF WESTERN RAILROAD"

MEETING OF MARCH 11, 1836.

Read and laid on the table.

Mr. Jackson, a minority of the Committee appointed to consider and report on the System for building the road and the Officers to be employed thereon made the following report.

Western Railroad Corporation

The undersigned, one of the Committee directed to consider and report on the System for building the road and the officers to be employed thereon asks leave to submit the following Report.

That in his opinion it will be for the interest of this Corporation and the public to employ a practical man, as superintendent to take charge of constructing the road, under the direction of this Board in preference to a professed Engineer. Because under such direction it is believed the Road will be constructed, at much less cost, and with greater despatch, with better judgment and much less perplexity to this Board.

If it should be objected that this arrangement would be a departure from the mode usually adopted heretofore, it may be replied that it is quite time the former course should be abandoned, considering the great and increasing dissatisfaction which has resulted from it.

The change recommended is not without precedent and will it is confidently believed meet with the approbation of the most discerning, if not the largest portion of the stockholders of the Community.

The undersigned would therefore recommend a course which would lead to free competition among our practical and intelligent working men in preference to confining the choice to the graduates of West Point, who, however skilful they may be in their own department of Engineering are notoriously unfit for the practical purposes of the general direction and superintendence of such a work. It cannot be expected that any institution can take boys from the lap of wealth, luxury and idleness and fit them for all the duties of such an enterprize.

Scientific men, from their manner of life, Education and pursuits rarely possess those habits of economy, industry, foresight and judgment which are indispensable to great practical operations, and which are more generally found among those whose experience and business knowledge are the result of a life of active industry and the basis of a sound judgment.

The habits, feelings and address of professed engineers are essentially military, uncongenial to the purposes of business transactions and repulsive to those of the mass of the people, with whom they come in contact in this work.

The beauty of a bridge, the imposing appearance of a viaduct has more charm for them, than the plain and homely attributes of utility and economy.

To obtain a scientific reputation, to excite the admiration of those whose tastes delight in elegance and grandeur without regard to cost, is their chief ambition; and these views are fully confirmed by a recent report of the Committee of ways and means in Congress.

That a combination exists among them, express or tacit, to engross the management of public works, and to enforce their own peculiar views and interests, to the exclusion of practical men, I have no doubt. However well qualified any one may be who has not received a scientific education at the Schools, their influence would be exerted to his disparagement and exclusion in the direction of this business.

If an Engineer is sufficiently familiar with instruments and mathematics to take levels and calculate embankments and cuttings, he has science sufficient for railroad purposes under the direction of a superintendent of sound judgment who will be more likely to regard with singleness of purpose the means to accomplish the work and the great end to be obtained in its structure. This end being no other than to build a road for utility alone, and in the cheapest and most advantageous manner.

If therefore we can find a man to superintend the construction of the Road, of persevering habits of industry, of sound judgment, and some experience in public works; one who is generally known and influential in the community, and one who would be willing to exert his influence and devote his whole time to the work, it will be decidedly for the interest of this enterprise to appoint him the chief Agent, having, under the Director the responsibility of managing the work; and this appointment should be for one year only, so that in case of dissatisfaction the connection may easily be dissolved.

It is believed that a Superintendent can obtain as capable and faithful Engineers as any other person, and that he should have the right to nominate to the Board, the Engineers and sub-agents to be employed under him.

The undersigned would therefore respectfully but solemnly protest against committing the direction and superintendence of the Western Railroad to that class of Engineers to whom this Report has reference, believing that such a course of management would result in extravagant expenditure and delay, and thus destroy the just expectation the community entertain of cheap travel and transportation.

In conformity with these views a resolution has been appended to this report, the adoption of which is recommended to the Board.

All which is respectfully submitted by

(Sgd.) FRANCIS JACKSON.

Original in Treasurer's Office B. & A. R. R.

Mr. George W. Bliss, of Springfield, Massachusetts, organizer and first General Agent of the Western Railroad from March 16, 1836 to

February, 1844, and President of the road from thereafter until January 3, 1846, the latter office he resigned because of ill health, gives in his "Historical Memoir of the Western Railroad," published in 1863, an interesting account of the Winans engines on that road.

"In providing motive power, it had always been conceded, that the transportation of freight over the heavy grades of the Road west of the river, would require powerful engines. The Legislative Committee reports that Messrs. Howard, Jackson, Lincoln, Bliss and Whistler were appointed in July, 1841, a Committee on moving power, 'with power to authorize the purchase of such engines as they thought proper.' That they issued circulars and received replies. Major Whistler, the engineer of the Road, went to Baltimore and examined 'The Maryland,' an engine by Ross Winans, of twenty tons, eight wheels, all connected, making the whole weight effective for adhesion. He reported favorably, and Messrs. Jackson and Lincoln were appointed a sub-committee to make a further examination and enquiries, with power to purchase. In company with the chief machinist of the Lowell Locks & Canal Company, manufacturers of locomotives, they went to Baltimore, and after satisfactory experiments and inquiries, they confirmed the opinion of Major Whistler, and the Committee on moving power, on August 26, 1841, closed a contract with Winans for seven engines, to be delivered by December 16, 1841, at $11,000 each.

"The Company had previously had engines of the Lowell Locks & Canal Company at about the same price. A minority of the Directors were strongly in favor of engines by Norris of Philadelphia, who proposed to make equally good ones at less prices.

"Major Whistler, a life-long engineer, and at one time in superintendance of the Lowell Machine Shops, had known the character and capacity of the Norris engines, as they were running on the Worcester, Norwich and Hudson & Berkshire Roads, and preferred the Winans machines for heavy freight trains, for which service they were designed. The other members of the Committee on moving power, except perhaps Mr. William Jackson, had had no experience and no practical knowledge upon the subject. They had confidence in the opinion and skill of Major Whistler, under whose supervision the engines were to be used. Mr. Jackson, as a director and agent of the Worcester Road, was familiar with the Norris engines, which daily passed his door.

"During the hearings before the Legislative Committee, the President informed them, that the stockholders' Committee had appointed a sub-committee to witness trials of the Winans with other engines, with authority to invite others to witness them; that the principal Railroad Superintendents and engine builders in this vicinity were requested to attend. Several of the legislative Committee expressed reluctance to proceeding further on the subject of engines, relying upon a full examination by the Committee of stockholders; to which the President replied, that, if the Committee went into the subject sufficiently to express an opinion, he wished to produce witnesses from the road, who had run the Winans engines; and to exhibit evidences of trials. Upon which the Committee had a consultation, and the President understood the chair-

man to say, that the Committee did not wish to proceed farther ON THIS SUBJECT, unless the Directors desired to go on. The President in a subsequent letter to a majority of the Committee, stated that he did not suppose they would express any opinion upon this subject, and he forebore to bring in witnesses from the road.

"In the meantime the sub-committee of stockholders having procured the attendance of Messrs. Parker and Woodworth of the Worcester road, Storrow of the Lowell, Lee of the Providence, Pratt of the Norwich, Whitwell of the Lowell and Nashua, Hill of the Eastern, Waterman of the Hudson and Berkshire, Messrs. Hinkley of Boston and Brownell of Lowell, engine builders, proceeded with the proposed experiments and trials, on the twenty-first and twenty-second of February, 1843. At the close, the sub-committees submit the certificates of the EXPERTS, and say, 'that upon one point, as regards these engines, there will be no dissenting voice, viz: that the main feature in which they differ from all others, in use on the road, is, their having eight wheels, all of which are drivers; thus making the whole weight of the machine effective, while it is so distributed as to produce the least possible injury to the road. Seven of the gentlemen invited, reported that from the trials had, as to the power of the Winans engines to draw over the eighty-three feet grade, loads of eighty tons of merchandise and sixty tons of cars, in all one hundred and forty tons behind the tender, which they were told was the performance expected of them, and for which they were constructed, they had no doubt they were equal to it, because they had seen them do more.' That they saw no defect in principal, and did not believe any such existed, that the principal fault was a frequent deficiency in steam, not from want of fire service, or of furnance, but that it probably arose from the short chimney rendered necessary, by the upright position of the boiler, and that this want of draught can probably be obviated at a comparatively small expense. That as to the consumption of fuel, and as to repairs, it requires a larger experience to judge; that as to the peculiar principle of these engines, abundant adhesion, and weight on wheels, below what is usual in other engines, 'we regard it as of very great value, and one of which should not on any account be relinquished. It is peculiarly important, on the Western Road, because of the steep grades, requiring great adhesion to surmount them.' (The chimney of the first of these engines brought upon the road proved too high for some of the bridges, and the chimneys of all were shortened, thus affecting the draught. Subsequently all the low bridges on the road were raised. Some parts of the engines proved too weak, and Mr. Winans came upon the road and made the necessary changes at his own expense).

"Contrary to the understanding of the President of the Road, the Legislative Committee did report on the subject of the Winans engines, giving their 'opinion that the directors assumed too great a responsibility in the purchase of so large a number of engines, as they had not at that time been sufficiently tested with the use of wood, to justify an outlay of nearly $80,000.' The majority of the committee also express the 'opinion that on the first of February, 1842, when the third engine

was delivered, they had been sufficiently tried to justify a well-founded apprehension, that they would prove incompetent, without material alterations, to perform the duty expected of them.

"The Committee also stated their conviction, that the Winans engines consumed more fuel, and were more expensive for repairs than the others. Upon neither point, had there, at the date of the report, been sufficient experience to judge correctly. As to the repairs, they were principally made by Winans in 1842. The Committee estimate the cost of fuel, oil and repairs, PER MILE RUN, in comparison with other machines. The President contended that the true measure was THE DUTY PERFORMED, and this more especially as applied to the consumption of fuel. Mr. Barnes, the engineer, said, 'The comparitive expense will depend upon the DUTY PERFORMED.' THE COST PER TON PER MILE, OR PER PASSENGER PER MILE RUN, is universally held as the only true criterion. In 1841, the cost of fuel per ton per mile, was 189/1000 of a cent. In 1842, with the Winans engines, it was 183/1000 cents.

"It is proper to note, that in June, 1842, Major Whistler was called into service of the Russian Government, to construct the St. Petersburg and Moscow Railroad, and the company were not only deprived of his services, and supervision, when the Winans engines were getting into full operation, in 1842, but also of his advice and assistance during these protracted trials and investigations. His duties were, by vote of the Board, devolved upon the President, who had no professional experience on the principal subject before the committees.

"Nine of the Committee spent two days at Springfield, in sundry examinations, and read the voluminous reports of this and prior years, on the subject of engines, and in their report they gave a history of the proceedings of the directors on the subject of motive power. They say that at the request of Norris, a committee made a trial of one of his engines, with the Lowell engine Suffolk, and reported, 'that no part of the performance of the Norris engine, either on the Worcester or Western Road, indicates that its power was at all superior to that of the Lowell engines;' 'that at the trial at Springfield, the Suffolk gave decided and unequivocal evidence of superiority.'

"A majority of the stockholder's Committee reported, 'that reasonable care was taken in examining the pattern engine, America, (the Winans machine, at Baltimore,) and that the purchase of the engines was judicious' and 'that they were satisfied with the honorable fulfillment of their contract by the contractors'—that 'the Winans machine failed in many parts, which were too small; but that Winans made changes and repairs at his own expense, during the ninety days allowed for their trial.'

"On the contrary, a minority of the Committee, Messrs. Pickering, Homer and Thomas, in their report, condemn the engines in every respect, their construction, their power, the expensiveness of operating them, uncertainty of keeping time, the want of capacity of the tenders, being on four wheels, and they add, that the first engine delivered should have been tried on the Western Road, before ordering or accepting others.

"The only matter which fell under the animadversions of either Committee, was the purchase of the Winans' engines, which it was conceded had not been sufficiently tested, to judge their economical efficiency. The contract for freight engines had been too long postponed, as the road was to be opened through in December, 1841, giving only a few months for construction of the engines. This was the reason assigned by the Engineer and Superintendent for engaging so many at once. All were anxious to get powerful machines, with the least weight on each wheel. Probably no man in the country was more competent to judge the character of the different kinds of engines for specified work than Major Whistler. He, and the Directors, and Agent, acted in good faith in the matter; and, from the evidence they had then, and examinations made in 1843, and the trials and experiments made by the experts, the purchase was fully justified.

"But it is proper, in this connection, to say, that, upon a trial of several years, either on account of the prejudices against them among the operatives, or some of the officers, and consequent want of care, or the practical defects of their construction, and operation, or both, the Winans engines, did not on this Road, meet the expectations of their early friends; and that, after eight years from the time of their introduction on the Road, they were gradually laid aside, and the annual report of the Directors, of January, 1850, does not include one of them in the schedule of engines on hand.

"The writer is, however, favored with a letter of late date, from one of the EXPERTS on the trial of engines by the last Committee, and who subsequently had a large experience as Superintendent of the Baltimore & Ohio Road, where Winans' engines of somewhat similar, though modified construction, were extensively used. The writer says, 'he found a dozen engines similar to the 'Crabs' in all respects, excepting that they had horizontal boilers; that they were of the heaviest class at that time in use, and did good service;' that Winans 'deserves the credit of having been the maker of successful engines, having all their weight applicable to draft, on eight wheels, and more simple in the PLAN than any machines I have ever seen built or pictured;' that 'engines now (in 1862) in use on the greatest Railroad in our country, attest the soundness of the main distinctive principle of the 'Crabs', viz., the adhesion of all the wheels in connection, whereby a machine of given weight, propels a larger load than under the more popular plan.''

In the report of the Engineer of the Road for 1843, he mentions the Winans engines and gives the dates of their first trip. They are as follows:

"Maryland" first trip Jan. 1, 1842.
"Michigan" first trip Jan. 26, 1842.
"Ohio" first trip Feb. 15, 1842.
"Illinois" first trip Apr. 1, 1842.
"Arkansas" first trip Aug. 1, 1842, rec'd direct from Philadelphia.
"Indiana" first trip Aug. 29, 1842, rec'd direct from Philadelphia.
"Missouri" first trip Sep. 1, 1842, rec'd direct from Philadelphia.

In his report he mentions the "Albany" just having been received (1843) from Winans and states that it was the "Illinois" that was under competitive test with the Locks & Canal engine "Rhode Island."

Kinmond Brothers' Locomotive Works, Montreal

By Robert R. Brown.

IN 1853, when the Grand Trunk and many other Canadian railways were projected, Kinmonds of Dundee, Scotland, assuming that Canada would be a profitable field for them opened a branch factory in Montreal for the manufacture of locomotives and other kinds of machinery. This was the first locomotive works in Montreal and their first engine, Grand Trunk No. 17, was the second locomotive built in Canada. Altogether they built eleven locomotives for the Grand Trunk Railway and one for the Montreal and Bytown Railway. They resembled the Portlands, then the favorites in Canada, except that English type plate frames were used. Kinmonds turned out work of the very best quality and their prospects of success were excellent but, in common with many other railway ventures, they went under in the great commercial depression of 1857.

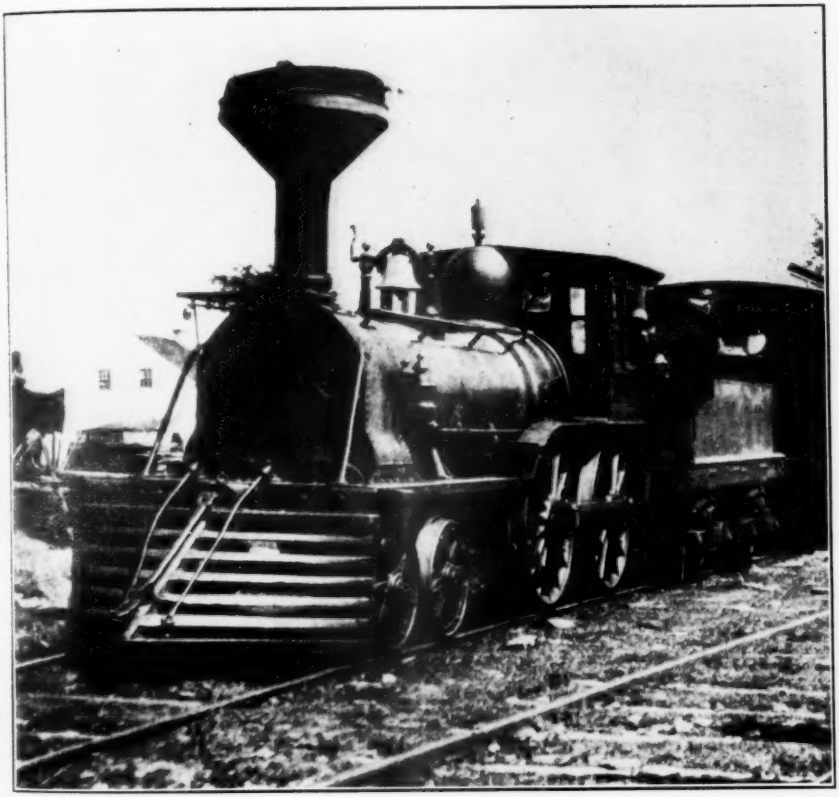
The "Carillon," built for the Montreal and Bytown Railway, ran for 56 years on the Carillon and Grenville Railway and finally was scrapped in the spring of 1914; it probably holds the Canadian record for long service. The completion of the "Carillon" is mentioned in the *Montreal Gazette* of September 2nd, 1854:

Kinmonds' Locomotive Factory.

There is now completed and standing outside on the rails near the factory, close by the Lachine Railroad Station, a superb locomotive engine and tender intended to be sent up immediately to Carillon to run between that place and Grenville over that section of the Montreal and Bytown Railroad. This is the ninth engine made by Messrs. Kinmond during the last twelve months, besides other descriptions of engines and other work; the other eight having been purchased by the Grand Trunk. The present one is a beautiful specimen of that wonderful iron horse and is well worthy of the notice and admiration of the public. This factory employs 170 or 180 persons—is the only locomotive factory in Lower Canada (now the province of Quebec) and well deserves public encouragement.

The following is a list of the locomotives built by Kinmonds in their Montreal factory:

Sept. 1853	Grand Trunk	#17	Pass.	16x24	4-4-0	66″	26	tons
Nov. 1853	" "	20	Frt.	15x24	4-4-0	60″	26	"
Feb. 1854	" "	31	Frt.	16x24	4-4-0	60″	26	"
June 1854	" "	29	Frt.	16x24	4-4-0	60″	26	"
June 1854	" "	30	Pass.	16x24	4-4-0	66″	26	"
July 1854	" "	10	Frt.	14x21	4-4-0	60″	22	"
Aug. 1854	" "	25	Pass.	15x21	4-4-0	66″	28	"
?	" "	?						
Sept. 1854	M. & B. R. R.	2	Frt.	14x21	4-4-0	60″	22	"
May 1856	Grand Trunk	71	Pass.	15x21	4-4-0	66″	28	"
Oct. 1856	" "	86	Pass.	15x21	4-4-0	66″	28	"
Nov. 1856	" "	87	Pass.	15x21	4-4-0	66″	28	"



"CARILLON"
Built 1854 for the Montreal and Bytown Railway by Kinmond Brothers, Montreal.

The article in the *Montreal Gazette* distinctly stated that eight locomotives were built for the Grand Trunk during 1853 and 1854 but the list in the Grand Trunk Annual Report of 1859 shows only seven received from Kinmonds during that period so we can only conclude that one was wrecked or otherwise disposed of some time between 1854 and 1859.

No locomotives were built in 1855 and in an effort to get business an advertisement appeared in the *Gazette* of June 2nd, 1855:

Locomotive Engine Works

Montreal

The Subscribers, in addition to the manufacture of Locomotive Engines are prepared to Furnish

STEAM ENGINES, BOILERS, Etc.,

of the most efficient and approved character for

SAW AND GRIST MILLS

as well as every description of Millwright Work.

Kinmond Brothers,
Engineers.

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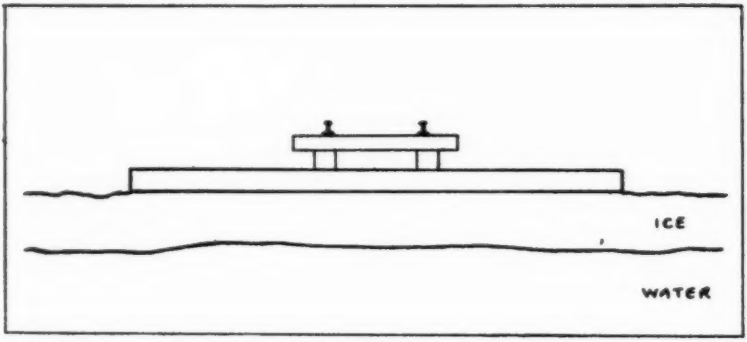
The Montreal Ice Railway 1880-1881

By Robert R. Brown.

ONE of the most curious and interesting railway ventures in Canada was the famous railway built across the ice of the St. Lawrence River, between Montreal and Longueuil, during the winters of 1880 and 1881. Previous to the construction of the Canadian Pacific Railway bridge at Lachine, near Montreal, in 1887, the only railway bridge across the St. Lawrence was the Victoria, owned by the Grand Trunk Railway and that Company was not very friendly to rival lines and practically refused to allow them the use of the bridge. During the seventies, two railways of considerable size were built; the South Eastern Railway, on the South side of the St. Lawrence, extending from Longueuil, opposite Montreal, to Newport, Vermont, and with branches to Sorel, St. Guillaume and Frelighsburgh; while on the North shore of the St. Lawrence, the Quebec, Montreal, Ottawa and Occidental Railway had lines extending from Montreal to Quebec and to

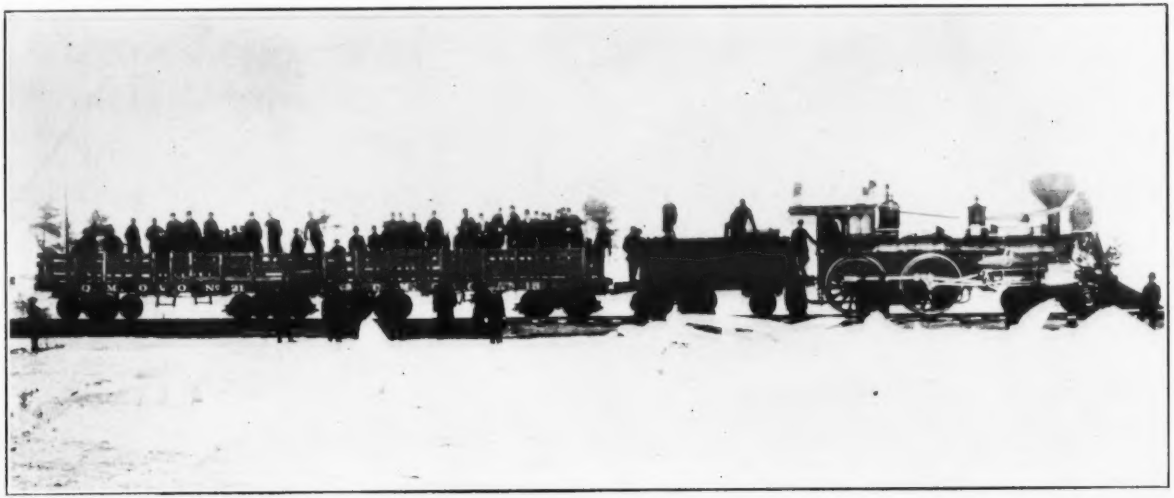


MONTREAL ICE RAILWAY 1880-1881. DETAILS OF TRACK STRUCTURE.

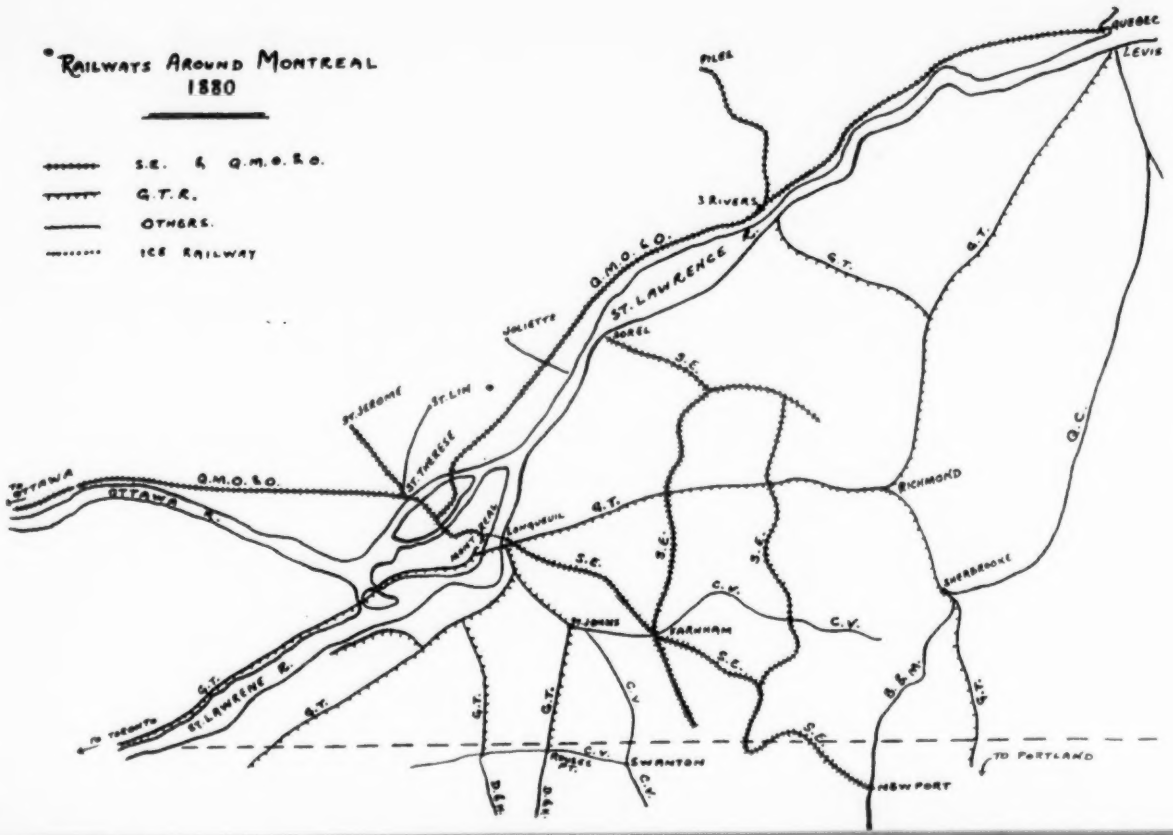
Copied from the original Engineer's Plans published in L'Opinion Publique on February 19th, 1880.
Robert R. Brown.

Ottawa. In January 1880, Mr. L. A. Senecal, who controlled the South Eastern, was appointed General Superintendent of the Quebec, Montreal, Ottawa and Occidental, which had just been built by the Provincial Government. These two railways had not been very successful but it was hoped that by exchanging traffic and working together it would be to their mutual advantage. The Q. M. O. & O. needed an outlet to the United States and the South Eastern was the only one not under the control or influence of the Grand Trunk.

For financial reasons, a bridge across the river was out of the question, so the directors of the two railways decided to try a scheme that had been proposed several times in the past, but which no one had had



INAUGURATION OF THE ICE RAILWAY BETWEEN MONTREAL AND LONGUEUIL, JANUARY 31s, 1880. Photo by Notman.


RAILWAYS AROUND MONTREAL
1880
S.E. & Q.M.O.&O.
G.T.R.
OTHERS.
ICE RAILWAY
QUEBEC
LEVIS
PILES
3 RIVERS
Q.M.O.&O.
ST. LAWRENCE R.
G.T.
JOLIETTE
ST. JEROME
ST. LIN
ST. THERESE
BOREL
S.E.
OTTAWA
OTTAWA R.
LONGUEUIL
RICHMOND
Q.C.
SHERBROOKE
ST. JOHNS
FARNHAM
C.V.
B.&M.
TO PORTLAND
ROUSES PT.
SWANTON
NEWPORT

the courage to try. A subsidiary company, La Compagnie de Traverse de Chemin de Fer d'Hochelaga a Longueuil, was formed to build a connecting line across the ice in winter and to operate a car ferry in the summer. There were many doubts and some ridicule, and the papers of the day were filled with letters, pro and con, from such well-known people as Constant Reader, Subscriber, Pro Bono Publico, and others.

Small holes were bored in the ice to gauge the thickness and it was found that the ice varied from two to four feet in thickness, and was quite solid enough to support the weight of a light train. Early in January work was started, grading and leveling the snow and ice, from the South Eastern terminus at Longueuil across to the Q. M. O. & O. tracks, near the Hochelaga station in the city of Montreal, a distance of 3000 yards. To distribute the weight over a large area of ice, cross timbers, 12"x12", varying in length from 12 to 24 feet, were laid on the ice, and then timbers of similar dimensions were laid longitudinally on top of them and spiked down. Then on top of the longitudinal timbers, ordinary ties were laid and spiked and light iron rails completed the structure. The line was completed on January 29th, 1880 and loaded cars were hauled, by horses, across to Montreal.

The official inauguration took place two days later, on Saturday, January 31st, when a train, consisting of a small locomotive, the "W. H. Pangman," and two flat cars, fitted with seats and railings, set out with a load of Government, Civic and Railway officials and guests, while other, less venturesome, guests crossed the river in sleighs. The train was gaily decorated with flags and evergreens and a large stuffed beaver was mounted on the pilot of the engine. The locomotive weighed about 25 tons, the two flat cars about 8 tons each and the 250 passengers probably brought the total weight of the train up to about 60 tons. There was great excitement as the train started out over the ice, especially as the weight of the train caused the water to bubble up through the cracks and holes in the ice, and the spectators on shore fully expected to see the passengers get a cold and sudden bath. However, the train continued on its way, at about ten miles per hour, and finally, after having stopped for a few minutes at the middle of the river while photographs were taken, arrived at the South Eastern station, at Longueuil, where refreshments were served by the proprietor of the nearby Richelieu Hotel. Toasts and speeches followed but despite the gratifying results of the experiment there were still many who had misgivings.

The line was used about two months, though horses replaced the locomotives after the middle of March and by the end of that month the ice began to be insecure, so the track was taken up. By April 17th the river was clear of ice and the new car ferry, the South Eastern, started running. Traffic had been handled, without much difficulty, practically the whole winter, so the following winter the track was laid on the ice again but, after a few days, the men in charge became over-confident and took 17 loaded cars over to Longueuil in one train, thus weakening the ice. Returning to Montreal, the locomotive, the "St. Pie," had just left the south shore when there was a loud crack, the men were seen jumping from the train and the locomotive and two cars gradually dis-

appeared from view, sinking to the bottom of the river, where they remained until the following summer. The numerous critics were jubilant and the enterprise had to be abandoned.

It is related how after the accident someone asked, "Eh bien, M. Senecal, quand partira-t-il votre train?" (Well, Mr. Senecal, when is your train going to leave?), to which he replied, "Attendez un peu, la locomotive s'est arretee ici pour prendre de l'eau." (Wait a bit, the locomotive has just stopped here to take water). The ice railway was never again attempted and during that and succeeding winters, passengers and freight were taken across the river in sleighs, until a few years later both the South Eastern and the Quebec, Montreal, Ottawa and Occidental were acquired by the Canadian Pacific Railway, and then were connected by the new St. Lawrence Bridge at Lachine, a few miles above Montreal.

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The Liverpool & Manchester Railway

A Centenary of World-Wide Interest.

By D. S. Barrie.

FIVE years ago, in 1925, there was celebrated with fitting ceremonial in the North East of England the hundredth anniversary of the opening of the Stockton & Darlington Railway, the first public railroad proper in the world, and two years later (1927) saw the centenary of the Baltimore & Ohio Railroad of America.

This year, 1930, takes the centenary period of these early railways a step further with the 100th anniversary of the Liverpool & Manchester Railway of England, which was formally opened for traffic on September 15th, 1830. This year, too, witnesses the centenary of the first public railway in the South of England, the Canterbury & Whitstable, a line only six miles long whose only claim to recognition by the railway historian is the peculiar insistence of its promoters upon the inclusion in the system of a tunnel, which was regarded as a desirable novelty, although both useless and expensive!

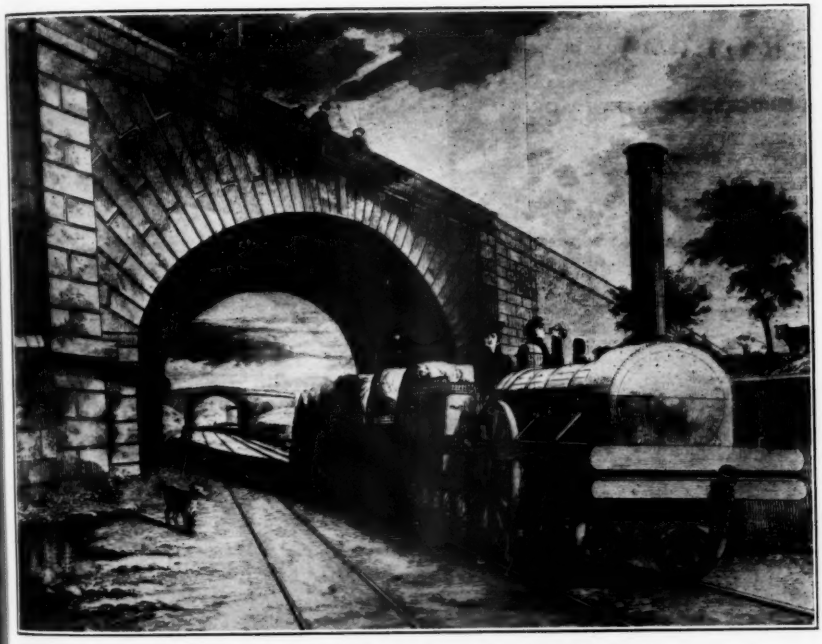
The centenary of the Liverpool & Manchester line, however, is an event of first-class importance in the history not only of railways but of transport generally, for the opening of this system definitely established what its predecessors had failed satisfactorily to prove—that railways were the great transport medium of the future.

The Liverpool & Manchester line is noteworthy, too, because it was the first section to be publicly opened of what is now the biggest railway in Britain, if not in Europe—the London, Midland and Scottish, which now penetrates 32 of the 40 counties of England, owns nearly 7,000 route miles of track, and employs a staff of over a quarter of a million workers.

At the time of the birth of the Liverpool & Manchester Railway, there were probably about 50 miles of railroad in use in Great Britain, but the great majority of these roads were tramways pure and simple, worked either by gravity or horses, and used only for the conveyance of minerals. And it must be remembered that the Stockton & Darlington, which was opened in 1825, was in the first place a railroad for the transport of coal, and passenger traffic was at first regarded more or less as an afterthought.

The Liverpool & Manchester, then, was in reality the first "trunk" line, since it was built to link two great centres of population and not merely a group of collieries and wharves (although none would seek to diminish the immense importance of the Stockton and Darlington, it must be remembered that the Liverpool & Manchester was planned as much as a passenger undertaking as a freight route, and as such can claim to be the first trunk railway in Europe.)

Monopoly, with which many evils are traditionally associated, was the principal cause of the creation of the Liverpool & Manchester line, its case providing an apt illustration of the good which cometh oft from



EARLY SCENE ON THE LIVERPOOL AND MANCHESTER RAILWAY.
GOODS TRAIN PASSING UNDER THE RAIN HILL BRIDGE. LOCOMOTIVE "PLANET".
(From a Print lent by Mr. J. E. Kite).

evil. In this case it was a canal monopoly, for in the early decades of the nineteenth century the canal interests held a virtual monopoly of and exercised a stranglehold on all the traffic passing between the great port of Liverpool and the rapidly-growing manufacturing city of Manchester, the centre of the British cotton industry. All the cotton imported into Liverpool had to be taken to Manchester, 30 miles away, by canal, and the huge dimensions of the cotton traffic, coupled with a rapidly expanding general trade between the two points and a growing inefficiency on the part of the canals, swiftly precipitated a condition of chaos for which there was only one remedy—the construction of a railway.

In 1824, therefore (one year before the opening of the Stockton & Darlington Railway) the traders of Liverpool and Manchester promoted a railway between the two cities, and in the face of strenuous opposition from the canal proprietors and from other landed and vested interests, succeeded in obtaining Parliamentary powers for the railway in 1826. The story of the battle which preceded the granting of these powers would make a long and exciting one if told in full, for not only was there much diplomatic manoeuvring behind the scenes, but actual physical skirmishes between the railroad surveyors and gamekeepers and others sent out with a view to preventing a survey for the line being made.

Prior to the actual construction of the line, which was undertaken by George Stephenson, there was a protracted discussion among the promoters as to the exact motive power to be used. One section advocated locomotives, which were then mainly in the experimental stage, while another regarded a system of stationary engines and cables as being the only practicable means of locomotion. George Stephenson himself upheld the advantages of the locomotive, as is only to be expected, and at his invitation a party of the directors visited the North of England and inspected, among other locomotives, that which Stephenson had built for the Stockton & Darlington.

The question was finally settled, however, by the holding of the famous Rainhill Trials of 1829 (which were dealt with in the Society's BULLETIN No. 20) and which provoked enormous and justifiable interest at the time.

Political, legal and locomotives difficulties overcome, there remained a number of stiff engineering problems which the construction of the line presented. These involved taking the line of railway across the notorious Chat Moss, a bleak and barren bog which subsided so repeatedly and which sucked down so much material that it was likened by Stephenson to "a giant sponge." Stephenson's ingenuity conquered even this obstacle, however, the sponge-like nature of the bog being overcome by carrying the line across it on a carpet made of hurdles interwoven together. The other engineering features included a viaduct across the Sankey Valley, a cutting (Olive Mount) two miles in length, and a tunnel over 2,000 yards long in the heart of the city of Liverpool. There were in all 63 bridges.

After several preliminary and successful trial trips the Liverpool & Manchester line was formally opened throughout on September 15th,

1830, and though the opening was from a railroad point of view successful it was not unattended with unfortunate incident, for Mr. Huskisson, one of the Liverpool Members of Parliament, was knocked down and fatally injured by the locomotive "Rocket" while in converse with the Duke of Wellington. There was also a popular demonstration against the Duke of Wellington, directed by a section of the many thousands of spectators who attended the opening, while one of the trains ran over a wheelbarrow which had been maliciously placed on the line, but fortunately without any untoward consequences.

Eight trains were run on the opening day, and the public time-table which came into operation the following day provided for about seven trains each way daily, the distance of 30 miles being covered in about two hours, inclusive of stops.

So began the first of Britain's trunk railways. From the first it was a financial as well as a practical success, the volume of passenger traffic in particular exceeding all anticipations.

The subsequent history of the line may briefly be described. Following its successful inception branches were made to certain neighbouring towns, either by the Liverpool & Manchester or by private companies operating in conjunction therewith, while the Liverpool & Manchester itself built local extensions in both the principal cities which it had been built to serve.

In 1845 the Liverpool & Manchester Railway became amalgamated with the Grand Junction Railway, and this company a year later merged itself with the London & Birmingham and the Manchester and Birmingham Railways to form the London and North Western Railway, which came into being by an Act of Parliament dated 1846. The London and North Western in later years established and maintained the reputation of being the premier railway system in Britain, and its great traditions are now carried on by the London, Midland and Scottish Railway of England, which was created by the great amalgamations of 1921-23 and whose principal constituents were the London and North Western, the Midland, and the Caledonian and other Scottish Railways.

So much for a historical sketch—all too brief in such limited space—of the Liverpool & Manchester line, which is still after a hundred years one of the most important and most notable, albeit one of the shortest main trunk routes in Britain.

The original permanent way of the Liverpool & Manchester consisted of fish-bellied iron rails weighing about 35 lbs. to the yard (English measurement), but before many years passed heavier metal was substituted and the original stone-blocks which supported the rails were superseded by wooden sleepers.

Space does not permit of anything like a detailed history of the locomotives used in the early years of the Liverpool and Manchester Railway, so we must be content with a few notes on those in use when the line was actually opened.

The first eight engines were all of the single-driver type with a trailing axle, built to the designs of and by George Stephenson, and all were modelled on the famous Rocket (No. 1 of the Liverpool & Manchester

Railway) which was the winner of the Rainhill trials (1829) and which now occupies an honored place in the Science Museum at South Kensington, London.

The other seven engines were named Meteor, Comet, Arrow, Dart, Phoenix, North Star, and Northumbrian, of which the first four had cylinders 10 by 16 (Rocket being 8 by 17) and the last three cylinders 11 by 16 inches.

Considering the difficulties under which they were built and operated the performances put up by these early engines of Stephenson's were extraordinarily good, and although the Rocket is the only one of their number now preserved, the names of some of the others and of other early Liverpool and Manchester engines have been commemorated by the London, Midland & Scottish Company, many of whose latest 6100 class ten-wheeled "Royal Scot" type express locomotives now bear the honored names of these pioneer locomotives.

From Our Members

Mr. Frank E. Gill, of Portland, Oregon, has called our attention to some errors that appear in BULLETIN No. 17.

"First, referring to the article—'The Beginning of the Southern Pacific,' commencing on Page 47, statements in the second paragraph are not within the facts to the extent that there were fourteen miles of railroad in operation in Oregon from April 20th, 1863 and there had been for about a year previously a railroad six miles long in operation between Bonneville and Cascade Locks, the first mentioned line between the Dalles and Celilo. It is also incorrect to say, that one company * * * had graded a few miles within the vicinity of Portland. The fact is that sixty miles had been graded by one company and twenty miles by another before December, 1869. It was the road with sixty miles of grade that managed to complete twenty miles of track by December 24, 1869."

Mr. C. F. Dendy Marshall has also forwarded some interesting comments on the first twenty bulletins issued by the Society which are too long to be reproduced herewith. In this connection, we are always glad to receive comments and criticism, if available for publication in our bulletin. Historical research is not easily obtainable and our members are sincere in their belief that their contributions are correct so far as the data is concerned. Some of the best known authors have been known to err and the elimination of errors we try to reduce to a minimum.

Mr. W. M. Spriggs of St. Anne de Bellevue and Mr. R. R. Brown of 700 St. Catherine St. West, Montreal, have requested that if any of our members have any data relating to early Canadian railways or locomotives they would like to hear from them. Our Canadian members have contributed some interesting papers to this Society and they deserve our help and support.

Incidents in English Railway History

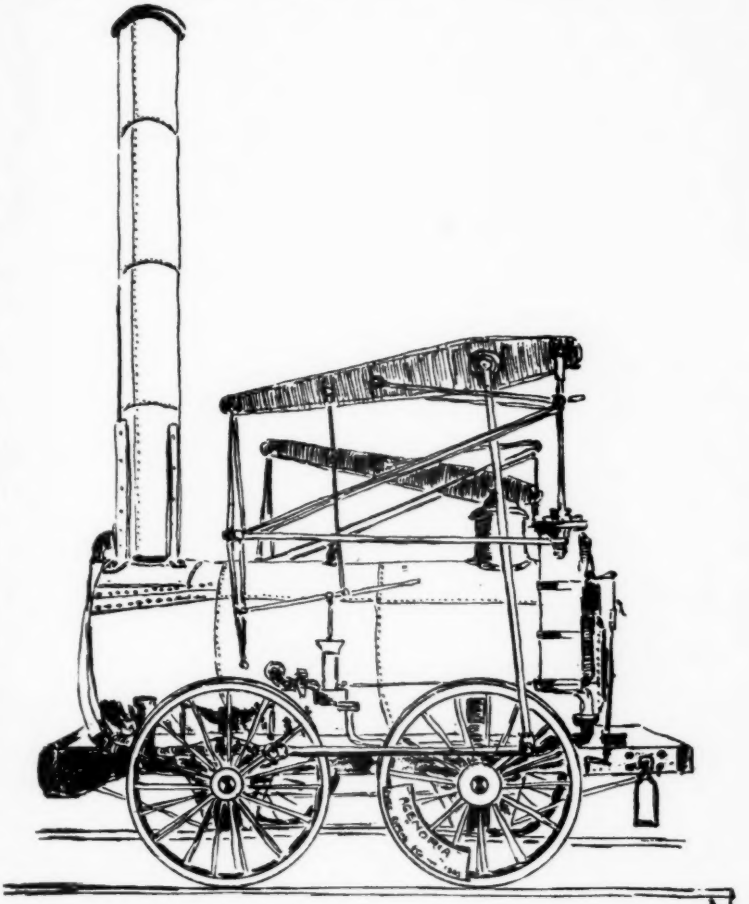
By G. W. Bishop

THE first traveling Post Office ran upon the London and Birmingham Railway, in 1838. This was a 4-wheeled vehicle with the "stage-coach" outlines of the period, and bearing the Royal coat-of-arms. A device was fitted for collecting and delivering mails whilst running, the invention of Mr. J. Ramsay, afterwards superseded by another scheme devised by Mr. N. Worsdell. The carriage weighed only about nine tons, and the speed was low, with four intermediate stops between London and Birmingham, about 112 miles. The staff comprised one or two clerks and a guard, the latter wearing a frock coat and top hat; his duty was to secure and exchange the mail bags as required. Two journeys were thus made daily. Bradshaw's Guide of 1839 (the first issue) shows that on this route there were 9 trains each way daily, the 1st. class taking 5 hrs. 15 mins., "mixed" 1st. and 2nd. class 5 hrs. 30 mins., and 3rd. class 8 hrs. 45 mins. The horse coaches of the period performed the journey in 10 hours. The 1st. class trains consisted of "mail" carriages carrying 4 inside, and others carrying 6 inside; "mixed" trains had 1st. class carriages (6 inside), and 2nd. class open at the sides; 3rd. class trains had merely open trucks with seats. One train each way was run at a penny a mile, known as the "Parliamentary." The term arose from a clause in the Parliamentary Railway Bill, and survived for some time after.

Speeds were so low upon the Bodmin and Wadebridge line, opened 1834, that a boy rode in front of the engine in order to open the gates at the grade crossings, of which there were 13. This boy was named Samuel Worth, and worked on the line for 61 years, until it was taken over by the L. & S. W. R. Passengers were picked up or set down as the train proceeded, similar to a tramway. Indeed, in early days, railway carriages were often used in this way, as there were no platforms at roadside stations, and passengers entered or alighted on either side as they thought fit. They also attempted to get on or off while the trains were moving, sometimes in order to recover their hats, which had blown away from open carriages.

An interesting example of a Royal railway journey took place in October, 1852, when Queen Victoria, Prince Albert and the Prince of Wales traveled from Balmoral to Windsor by an unusual route. The first stage of the journey, on Oct. 12, was to the Britannia Bridge, over the Menai Straits, which had just been opened, and from thence to Bangor. Next day the Royal train proceeded via Shrewbury and Wolverhampton to Birmingham. At that City the train ran over the Midland Railway to a point near Bordesley, where the newly-constructed broad gauge line of the Great Western Railway passed under the Midland Railway embankment. Here suitable platforms connecting the two lines had been erected, and the Royal party was thus able to walk down to a broad gauge train that was waiting in readiness to proceed to Windsor. The Royal saloon on the G. W. R. was fitted with a disc signal on the

roof, so that instructions to reduce speed could be conveyed to an official who rode in a shelter at the back of the locomotive tender. Later on a junction line was made at the point mentioned, and is said to have been used by a train conveying King Edward from Windsor to Chatsworth.



"AGENORIA" 1829.

The first locomotive to run in the Midland Counties appears to have been the "Agenoria," built by Foster, Rastrick & Co., at Stourbridge, in 1829. The first trip was made on Tuesday, June 2, 1829, over the

Shutt End Railway, a line made for coal traffic, connecting the Earl of Dudley's Colliery at Kingswinford with the Staffordshire and Worcestershire canal at Ashwood Basin. A great crowd gathered to witness this event in the history of the "Black Country." The engine drew a load of 130 tons at 3½ miles per hour, whilst engine and tender alone attained a speed of 11 miles per hour. The permanent way was of wrought iron, with cast-iron chairs and wooden sleepers. The engine worked for 35 years on this line, and is now at South Kensington Museum. The "Agenoria" is of special interest, being of similar design to the "Stourbridge Lion," which has received much attention, as indicated in BULLETIN No. 20. The only important difference lies in the very tall chimney fitted to the "Agenoria," probably to lessen the noise of the exhaust. The excellent service rendered by this engine shows that the design was capable of satisfactory work under suitable conditions. The sketch of the engine is by Mr. J. W. Smith.

G. W. BISHOP.

A Brief History of the New York & New England R. R.

By GEORGE M. WOODRUFF.

IN the Railroad Commissioners' Report for 1879 of the State of Conecticut will be found the following condensed sketch written by Mr. Woodruff who at that time was one of the three Railroad Commissioners of the State of Connecticut.

In this report will be found a statement to the effect that it was the purpose to present a history of these early railroad enterprises in this State before the men who were active in these enterprises passed away. The recent transfer of the Hartford, Providence & Fishkill R. R. to the New York & New England, thus making it the largest railroad operating in the State of Connecticut was the reason this road was first selected. Subsequent reports show that this idea was not carried out, but we are fortunate to have this sketch preserved for us which will probably be of interest to our readers.

"The earliest movement towards what afterwards became the Hartford, Providence & Fishkill R. R. seems to have been the incorporation by the legislature of Connecticut of "The Manchester Railroad Company," with authority to construct a railroad "from the City of Hartford through East Hartford and Manchester to a notch in the mountain in Bolton, and to or near the stone pits or quarries in the towns of Bolton and Vernon, in the county of Tolland." No organization was effected under this charter, and the next movement was toward the west. In 1845 "The New York & Hartford Railroad Company" was incorporated by the legislature of Connecticut, and the same year a survey was made for the contemplated "New York & Hartford Railroad via Danbury" by Mr. Edward H. Broadhead, between Hartford and New York State Line. His report was printed in connection with a report by a committee consisting of Messrs. James Goodwin, Edmund G. Howe, and Egbert Cowles. The report was very elaborate, and contained full statistics and estimates of business on the several routes surveyed. These gentlemen estimated the yearly number of passengers between Hartford and the State Line as 80,000, and the freight tonnage as 40,000, which has proved to be about the proportion of passengers to freight on the line as long as worked between Providence and Waterbury. In March, 1848, the legislature of New York passed a general railroad law, and in April of the same year, an act to the effect that a railroad from some convenient point at or near Fishkill Landing to the east line of the State, and as nearly east and west as the face of the country would permit, would be of sufficient public utility to justify taking private property, and authorized certain gentlemen to take proceedings to form a corporation under the act. These gentlemen reported in print, Dec. 1848, showing estimates of business, deduced from the before-named Connecticut report of 1845, equivalent to about 160,000 passengers and 85,000 tons of freight yearly over the whole line from Providence to Fishkill. Three-

fifths of that line from Providence to Waterbury, 122.365 miles in use since January 1855, has as yet, only acquired a business equivalent to about three-quarters of what was in 1848 estimated for the whole line from Providence to Fishkill. These gentlemen looked on coal only as a possible source of business, and made no account of it in their estimates; but they gave attention to the subject, and noted that its use had increased from 365 tons in 1820 to nearly 3,000,000 tons in 1847, and estimated 5,000,000 tons in 1848, for the then 20,000,000 population in the United States, and argued from all past experience that it would reach 15,000,000 tons by 1869, and from British statistics, that 1 1/6 tons per head of the population might be expected in the near future. In this connection it is interesting to observe that in 1877, the latest available return, the whole quantity moved was 54,000,000 tons, or nearly 1.4 tons per head of the population.

"In 1847, the powers and privileges conferred upon the Manchester Railroad Company were revived, and the new company was authorized to construct a road to Willimantic, with a branch to Rockville, and to assume the name of the "Hartford & Providence Railroad Company." In December of that year, the late James Laurie, C. E., reported in print to Messrs. Brown & Ives of Providence, R. I., on surveys made by him for the Providence & Plainfield Railroad, a Rhode Island enterprise, including a branch from Frozen Point (River Point), in the town of Warwick, R. I., up the north-west branch of the Pawtucket River, about three miles, to Hope Village. In 1848, the Hartford & Providence Railroad Company was authorized to bridge the Connecticut River and to extend their road from Willimantic through Plainfield and Sterling to meet the Providence & Plainfield Railroad. The same year the New York & Hartford Railroad Company above spoken of was united and merged in the Hartford & Providence Company; the company after the merger to be entitled "The Hartford, Providence & Fishkill Railroad Company," and to be authorized to build a railroad 'between the east and west lines of the State.'

"In 1848, construction between Hartford and Willimantic was actively pressed, and this portion of the line was opened in 1849; that from Hartford to Bristol was opened the next year. The union of the Hartford, Providence & Fishkill Railroad Company with the Providence & Plainfield Railroads, made in 1851, was validated and confirmed by the Legislature in 1852. The road from Willimantic to Providence was opened in 1854, and the remaining portion, Bristol to Waterbury, in 1855. No further work of construction was undertaken by this company, but in October, 1852, the whole route from Providence to Waterbury having been definitely located under Samuel Ashburner, C. E., the engineer-in-chief, the company, with a committee of the citizens of the State of New York, undertook surveys for extending the road from Waterbury to the Hudson. This work was under the charge of Samuel Nott, as engineer, and the country between Litchfield on the north, and Danbury on the south, was examined and surveyed. The report on these surveys gave preference to the southern route, which was the one upon which the work hereafter spoken of as done by the Boston, Hartford &

Erie Railroad Company was performed. The earnings of the road proved insufficient to pay the interest on its bonds, it was then with its meagre appointments on the first of February, 1858, surrendered to the Trustees of the bondholders, by whom, under the superintendence of Mr. Nott, it had been operated with marked safety and regularity for more than twenty years, till surrended to the New York & New England Company, on the 18th of October last (1878). More than half of the line probably yielded but little above the cost of operating, yet the gross annual income rose from $300,000. or only about $2,500. per mile, to $1,065,000, or about $8,000. per mile in 1873. The lowest income since 1868 was for the past fiscal year, $838,000. or about $6,500. per mile operated, and was never more than one-quarter of the rate of the New York, New Haven & Hartford Railroad. Under the management of the Trustees the bonds rose from about 30 per cent. to 108. During their management many additions and improvements were made, and the whole line kept in good and constantly improving condition, and the Trustees are to be complimented on the state of the property they have now delivered over, and on their management thereof.

"The New York & New England Railroad, as at present existing, is the result of the union of many railroads, organized at different times and for different purposes; some being started for purely local purposes, and others originally intended for through lines. The different divisions of the road were begun independently, generally between the years 1844 and 1848. The oldest charter of any portion of the line is that of the Manchester Railroad Company, as before stated, and the growth of that company into the Hartford, Providence & Fishkill Company has been given above.

"The Woonsocket Division of the New York & New England was acquired in 1865 by the Boston, Hartford & Erie Railroad Company, by a union with the New York & Boston Railroad Company. This latter company originated in Middletown, Connecticut, and the first charter granted was to the Middletown Railroad Company, with authority to construct a road from Middletown to New Haven. At this time there was great interest in regard to the construction of a through "Air Line" route between Boston and New York, and in 1846, the New York & Boston Railroad Company was chartered for this purpose, having authority to construct a road from New Haven through Middletown to the east line of the State towards Boston. This company was united with the Woonsocket Union Railroad Company in 1853, and thus obtained the right to extend its road across the northwestern corner of the State of Rhode Island to the State Line of Massachusetts. In 1855 it was united with the Charles River Railroad Company, having the right to construct a road from Brookline to the Rhode Island State Line, and having completed a road as far as Needham. The New York & Boston Railroad Company finished its road from Brookline to Woonsocket, and when the road was united with the Boston, Hartford & Erie Railroad Company this road came into the possession of the latter company, and has since been and is now run under the name of the Woonsocket Division.

"That part of the New York & Boston road which was located in Connecticut was not completed within the time required by the charter, and all rights under it were lost. It was subsequently completed by another corporation between New Haven and Willimantic, and is now owned and operated by the Boston & New York Air Line Railroad Company.

"That portion of the New York & New England Railroad which extends from Boston to Willimantic, originated in 1846, when the Walpole Railroad Company was incorporated with the right to construct a road from Dedham to Walpole, a distance of about eight and one-half miles. This company was consolidated in 1847, with the Norfolk County Railroad Company, which had the right to construct a railroad from Dedham to Blackstone, which it built, and in 1853 was merged with the Midland Railroad Company (having authority to build a road from Dedham to Boston), and the Southbridge & Blackstone Railroad Company (having authority to construct a road from Blackstone to Southbridge), the consolidated company taking the name of the Boston & New York Central Railroad Company. This company completed its road from Boston to Mechanicsville, where connection was made with the Norwich & Worcester Railroad. Through connection was made to New York by this route for about two weeks. The company then ran short of funds, failed to pay the interest on the bonds secured by a mortgage on the Norfolk County Railroad, the Trustees under that mortgage took possession of their portion of the road, and the whole road was thereafter run in sections until 1866, when it was again united under the Boston, Hartford & Erie Railroad Company. The property had in the meanwhile passed through the hands of another Midland Railroad Company, the Midland Land Damage Company, and the Southern Midland Railroad Company.

"The Boston, Hartford & Erie Railroad Company was incorporated in 1863, by the legislature of Connecticut, the charter having the following preamble:

> 'Whereas, By grants heretofore made to sundry railroad corporations, this State has declared her desire and policy to be that railroad communication shall be opened through the central portion of this State, extending to and connecting with the Erie Railroad at Fishkill on the west, and the harbor of Boston and the city of Providence on the east; and whereas there still remains some portions of said line to be constructed, which unbuilt portion the present grantees of power to build have been unable to finish; and whereas there is good cause to believe that, under one corporation, said line can be completed, and so answer the end and purpose of the creation of several corporations: therefore, etc.'

"From the above it is apparent that the legislature of Connecticut intended that the Hartford, Providence & Fishkill Railroad Company should become the property of the Boston, Hartford & Erie Railroad Company, in the hopes that the latter would finish the road to the Hudson River, and thus carry out the original intention in regard to that property. And one of the first acts of the Boston, Hartford & Erie Railroad Company was to purchase of the stockholders of the Hartford, Providence & Fishkill Railroad, their right in the road in cash and by the exchange of stock, under an agreement made by the two corporations by

vote of the stockholders of each, but not having paid the underlying mortgage bonds, they did not obtain possession of the property; some of the stockholders also refused to transfer their stock.

"Work was begun upon the road from Waterbury to the Hudson River, and it was partially constructed, over three millions of dollars being spent upon it.

"The Boston, Hartford & Erie Company also purchased the franchise and property of the Southern Midland Company and of the Thompson & Willimantic Railroad Company. It then completed the Southbridge branch, paid off the Norfolk County bonds, and ran the road from Boston to Putnam and Southbridge, and began the construction of the road from Putnam to Willimantic, which was completed by that company and opened in 1872.

"A Mortgage to secure bonds to the amount of $20,000,000 was made by the Boston, Hartford & Erie Railroad Company to Robert H. Berdell, and others, trustees, dated March 19, 1866, which was a lien upon a line of railroad extending from Boston and Providence through Willimantic to the Hudson River, and from Brookline, near Boston, to Woonsocket, R. I., with branches.

"The Hartford, Providence & Fishkill road was included in and covered by the Berdell mortgage, but it was subject to a first mortgage made by the Hartford, Providence & Fishkill Railroad Company, the trustees of which had taken possession for default in payment of interest on the first mortgage bonds, and were operating the road.

"In 1870, the Boston, Hartford & Erie Railroad Company failed to pay the coupons on the bonds secured by the Berdell mortgage, and receivers were appointed who took possession in August, 1870, and held possession for one year. In August, 1871, the trustees under the Berdell mortgage took possession of the road and foreclosed the mortgage, and the title to the property covered by it then vested absolutely in the bondholders, including, as is claimed, the right to redeem the first mortgage bonds of the Hartford, Providence & Fishkill Railroad Company.

"On the 17th of April, 1873, a meeting of the bondholders was held, and a corporation organized taking the name of the New York & New England Railroad Company. The proceedings whereby it was formed were ratified by the legislatures of Massachusetts, Connecticut, Rhode Island and New York the same year, and authority given the new company to mortgage its railroad, property, and franchises in a sum not exceeding $10,000,000. The capital stock of the company is $20,0000,000. and is issued only in exchange for the Berdell bonds.

"The property held by the trustees under the Berdell mortgage was tranfered by them to the new company by deed in July, 1875, and it has since been in their possession and control.

"To make their title absolutely beyond question, the New York & New England Railroad Company also purchased of the assignees in bankruptcy of the Boston, Hartford & Erie Railroad Company all rights of redemption by that company, and all stock and bonds of pre-existing companies held by it.

"The New York & New England Railroad Company also came into control of the Norwich & Worcester Railroad, extending from Worcester to Allyn's Point under the terms of a lease for 99 years made to the Boston, Hartford & Erie Railroad Company; this lease giving the New York & New England Railroad Company the control of a line of steamers running from Norwich, Allyn's Point, and New London to New York, the Norwich & Worcester Railroad Company owning a majority of the stock of the steamboat company.

"Last winter the company made application to the State of Massachusetts, which is the holder of $3,600,000 of stock of the company, to issue scrip to the amount of $6,000,000, the proceeds to be devoted to the purchase or discharge of all of the indebtedness of the company, or to which any of its property was subject, and to the completion of the road to the Hudson River, and to the equipment of the road, taking $9,000,000. of the company's first mortgage bonds as security. This proposition was declined. During the fall, however, private parties were found to take a sufficient number of the bonds, and availing itself of the right acquired by the Berdell mortgage, and enforced by decree of the court, the company paid off the first mortgage bonds on the Hartford, Providence & Fishkill Railroad, and on the 18th of October, 1878, took possession of that property, and then for the first time came into complete control of its entire road.

"It now owns and operates two hundred and sixty-one miles; it leases and operates eighty-nine miles; in all, three hundred and fifty miles of completed road, and one hundred and twenty-five miles of steamboat line; and also owns about seventy-five miles of roadbed, two-thirds completed, between Waterbury and the Hudson River. And as it is probable that work will be resumed on the unfinished line west of Waterbury in the early spring, it will be seen that the New York & New England Railroad Company may, and indeed must, be of great importance to the State of Connecticut, if the interests of our people are properly consulted.

"And though in granting the charter of the Boston, Hartford & Erie Company, the legislature did declare the policy and desire of the State to be that railroad communication should be opened through the State between the Erie Railroad and the harbors of Boston and Providence, it was that we might be, at least, equal sharers in the advantages gained, and not only or chiefly for the benefit of the company or the cities named."

Mr. Woodruff at the close of his sketch acknowledges the assistance of Mr. Samuel Nott, late Superintendent of the Hartford, Providence & Fishkill Railroad Company and Mr. James W. Perkins, Secretary of the General Manager of the New York & New England Railroad Company.

(Original, unpublished.)

The Little Locomotive With the Big Smokestack

To the Engine "Pioneer," the first locomotive to come to Chicago, in 1842, to operate the Galena & Chicago Union Railroad, the first line in the State of Illinois.

Now where Chicago burns to-night her thousand lamps aglow,
And her shadows on Lake Michigan in silver currents flow,
I can see those tinselled waters long before the arc-light came,
When the Dearborn shores were dotted with the gas-lamp's amber flame.
So pictured in my fancy is the wending wagon train,
And the log-hut by the forest and the teepee on the plain;
And the engine with the funnel on the timber trestle high,
Like the first that fired a cinder on the plains of Illinoy.
That bore the doughty pioneers that made a nation grow,
Where the Sioux roamed the prairie, and the lordly buffalo;
In the days of early venture from our triumphs looking back,
To the little locomotive with the big smokestack.

Where bold Columbus set his gaze the sun set calm and clear,
In the vast and vacant vista that his sailors faced in fear.
But its shadow shed before him on the evening ocean lay,
Like a golden path to guide him on his long mysterious way.
Then, so inspired, he followed o'er that wondrous western sea,
With the sun of promise smiling on the waves of destiny;
As it led the world for ages, and the legions in his line,
From the dormant vales of Europe, and the Liffey and the Rhine.
Who reared us to an empire over all that left their names,
From the Tigress to the Tiber, from the Tiber to the Thames.
So I dream of days romantic, from our triumphs looking back,
To the little locomotive with the big smokestack.

Montreal. JOHN LOYE.

Chevalier de Gerstner

FRANZ ANTON RITTER V GERSTNER.

Born at Prague, May 11, 1793.

Died in Philadelphia, April 12, 1840.

IN the Laurel Hill Cemetery, in Philadelphia, lies the remains of Chevalier de Gerstner. The grave is located not very far from the office and is marked by a large granite slab, lying flat, which bears the simple inscription—"Francis Anthony Chevalier de Gerstner April 12 1840."

From the pages of the *Albany Argus*, Dec. 12, 1844, we find an interesting account of this man. Those of our members who wish further

information as to his history are referred to the "American Railroad Journal and Mechanics Magazine—May 15, 1840" and in the same paper for August 15, 1840 appears a contribution by Mr. Klein, his Secretary, on the Russian railroads constructed by de Gerstner.

A handsome portrait of this man hangs on our walls in the Baker Library and his life should be of interest to all of our members.

THE FIRST RUSSIAN RAIL-ROAD—THE CHEVALIER DE GERSTNER, THE ENGINEER.

The first rail-road constructed in Russia was from St. Petersburgh to Zarscoe-Selo* and Pawlowsk, a distance of 17 miles. It was commenced in 1836 and completed early in 1838, under the direction of F. A. Chevalier de Gerstner, a distinguished Austrian Engineer.† The funds were obtained partly by a loan from the Emperor, 1,500,000 rubles, and the balance made up by subscription from a joint stock company, by whom the work was undertaken. It was regarded as a hazardous and visionary project, and a total failure confidently predicted. The capitalists who embarked in it were by no means sanguine of a profitable investment of their funds, and nothing but the profound scientific and practical knowledge of the indefatigable Engineer, could have conducted it under the circumstances to anything like a favorable termination.

The severity of the climate—the intense frosts and deep snows of winter —were obstacles which may readily be imagined were considered insurmountable. The embarrassments in the way of conducting rail-roads from these causes, in milder latitudes, have constituted serious objections, and are still the occasional sources of delays and interruptions. The plan of this road was designed to obviate these difficulties. The track was elevated an average height of 10½ ft. above the surface of the ground, on an embankment formed by the excavation of parallel side ditches, and a space of 420 feet in width, cleared of timber when the route lay through the forest, to admit the full benefit of the wind in clearing the road of snow. The top of the embankment at intervals where the cross timbers of the superstructure occurred, was covered with stone ballast, 15 inches deep, to prevent the heaving of the frost, and all moisture removed as far as practicable by drains and the ample side ditches at the base of the embankment. The face of the country was generally favorable to this mode of construction, and it will appear at once to be the most feasible, simple and practicable mode that could have been adopted.

The cost of the road, including fixtures, carriages, locomotives, depots, etc., was 524,400 rubles. The receipts from passengers and freight from 1st April to 31st Dec. 1838, were 798,000 rubles. The expense of working the road and repairs for the same time 313,000 rubles.

From this data (all that we have of an authentic nature) some idea may be formed of the success which attended the enterpise. The subsequent measures of the Emperor Nicholas in extending the work is a further indication of the satisfactory results attained by its construction.

The able engineer, de Gerstner, soon after the completion of this road, was permitted to leave the dominions of the Emperor without any engagement having been made for his future services. He came to this country in the fall of 1838, on a professional tour, and after having visited all the principal railroads and canals in the United States, and collected a fund of useful information and valuable data, died in Philadelphia in 1840, about one year after his arrival. His notes and observations on our works of in-

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*Zarscoe-Selo; literally, the residence of the Czar.

†Chev. de Gerstner had charge (in 1824) of the first railroad on the continent of Europe, to connect the rivers Moldau and the Danube, in Austria, by a line 130 miles long; since completed, and in operation in 1832.

ternal improvement (more extended and minute than any that have been hitherto made by any one of our own citizens,) with the exception of a few articles that were published before his death, are lost to the scientific world —a loss the more to be regretted, as they were made by a practical and discriminating mind, eagerly bent upon the pursuit of knowledge, and qualified in no ordinary degree to acquire it. His affable and unostentious deportment, his scientific attainments and extensive professional knowledge and experience, together with an inquiring and communicative manner, rendered the brief acquaintance which his friends were privileged to enjoy with him here, one of unabated interest and instruction. The facilities that were afforded him in pursuing his investigations in this country, bespeak in a gratifying manner the hospitality and courtesy, as well as discernment, of our countrymen. That they were well bestowed and appreciated, we have the evidence in his own language. Writing to the editors of the Railroad Journal, during his tour, he says: "I have already passed over more than 2000 miles of railroads, and have everywhere been received with the greatest kindness; the presidents, directors and engineers of the different railroad lines gave me not only all their printed reports, but laid before me, with the greatest liberality, their books and accounts, in order to give me every kind of information.—I fulfil only my duty when I publicly acknowledge that such liberality is only to be found amongst a free and enlightened people, where all public works are based on the principle of publicity, and where secrets do not exist."

Having completed his tour in a successful and satisfactory manner, and gleaned from our public works a mass of useful, intricate and detailed information, such as a comprehensive mind like his could not fail to acquire under the circumstances, this accomplished foreigner, engineer, and "savan," died in the city of Philadelphia, when about making arrangements to reembark with his valuable freight to Europe. His papers, together with his other effects, it is understood, were placed in the hands of a friend to convey to his family. Nothing has since been heard of them, and it is probable that they still remain (if preserved) in the imperfect state in which they were left at his death.

The Emperor Nicholas, in carrying out the plan that had been partially formed during the construction of the Zarscoe-Selo railroad—that of extending the line to Moscow—turned his attention to the United States for the selection of a competent engineer to take charge of the work.

Maj. Whistler, formerly of the Topographical Corps, and engineer of the "Western Railroad," received the Imperial appointment as chief engineer of the great Russian Railroad between the cities of St. Petersburg and Moscow, in 1838, and sailed for Russia, where he has since been actively engaged in prosecuting the great enterpise. G.

What We Can Do For Our Members

IN the past year this question has often been in the minds of some of the more serious minded men connected with this Society. With the varying temperaments and interests of our members, it is sometimes a difficult task to please all, though every member has realized that whatever he may suggest at any time, the matter will receive serious consideration.

While those members living in the vicinity of Boston, see and receive the benefits derived from our connection with the Baker Library, the fact remains that the majority of our members live outside of New England and only a few in the immediate vicinity of Boston.

One of our members has suggested that a questionnaire be sent out to our members and the following questions are worthy of your careful consideration and on which a reply would be appreciated.

1. What interests you particularly—photographs, books, catalogues, railroad reports or time tables? Are they very old, modern or both?
2. Do you definitely collect photographs or other material relating to old or modern locomotives or railways?
3. Have you material for exchange? Will you give a description and also what you desire, stating first and second choice.
4. Have you any material that you would care to sell? If so, give a description and price.
5. Is there any material that you would care to purchase? If so, give description and the price you would be willing to pay.
6. Would you be willing to list approximately, the material you have, sending the list to the Society to be kept on file for reference, in case some other member has certain material, and he can be referred to the owner?
7. Have you any material which you would be willing to loan to the Society to be used in the preparation of bulletins or other publications of the Society?
8. Have you any material that you would care to present to the Society, to be retained for the mutual benefit of all members?
9. Can you devote any time to the Society? Will you do so?
10. What is your opinion of our Bulletins? What types of articles do you prefer—give specific article. Are you satisfied with the size, type and paper used? If changes were made increasing the size, the grade of paper, etc., would you be willing to give it your financial support? If so, to what extent?
11. What is your opinion of the photograph exchange the Society started two years ago? In what way can we improve it?
12. In what way can the Society be of more benefit to *you*, and how would you suggest that we can serve you better?

I will certainly appreciate it, if every member will take the trouble and advise me relative to any or all of these points.

CHAS. E. FISHER.